

88

-205

Government
Publications

Directory of industrial
research and development
facilities in Canada

1985

Government
Publications



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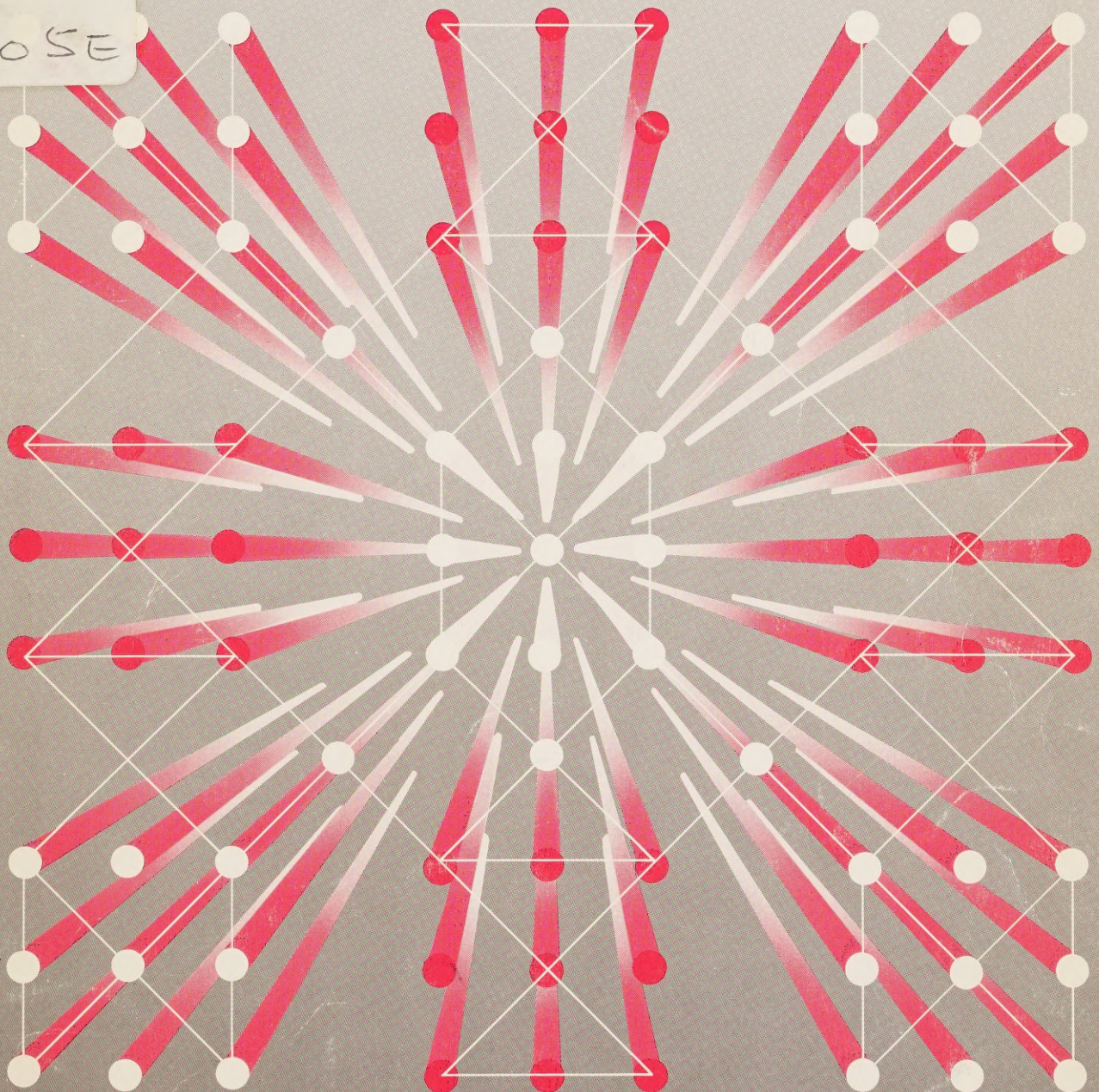
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et du stock de capital

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Government
Publications

Directory of Industrial Research and Development Facilities in Canada, 1985

88
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Canada

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Statistics Canada

Science, Technology and Capital
Stock Division

Directory of Industrial Research and Development Facilities in Canada, 1985

First issue



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FORMAT

AND

CONTENT OF ENTRIES

FORMAT AND CONTENT OF ENTRIES

Industrial R&D Facilities

The main body of the directory follows an alphabetical format for company names.

Information is published in the following manner:

COMPANY NAME

- Address

R&D Unit Name

- Address
- Administrative contact, position title, telephone number
- Scientific contact, position title, telephone number
- Total R&D personnel and number of scientists and engineers
- Description of R&D activities
- Specialized R&D facilities
- Current or potential activities of R&D Unit

Not all entries contain the full range of information. The original language of the descriptive text is English unless otherwise stated.

Geographic Index

Canada has been divided into eighteen regions. Within each region, all companies are listed in alphabetical sequence. To determine what facilities exist within a region, refer back to the specified companies in the main body of the directory.

Subject Index

The Science, Technology and Capital Stock Division is currently developing, for indexing and information retrieval purposes, a keyword index based on a restricted vocabulary. Users particularly interested in such an index should contact the Division for more information (Michel L. Boucher, 613-990-9919).

INDUSTRIAL

R&D

FACILITIES

3 M CANADA INC.

1840 Oxford Street East, London, Ontario, N5V 2Z6.

Corporate R&D - Toronto, c/o Inst. for Aerospace Studies, University of Toronto

4925 Dufferin Street, Downsview, Ontario, M3H 5T6.

Admin. Contact: Alan G. Mills, Executive Director, Technology Services, Tel: (519) 451-2500.

Scientific Contact: Dr. Norman Salansky, Manager, R&D - Toronto, Tel: (416) 667-7723.

Personnel: Total is 6 of which 6 are scientists and engineers.

Activities: Thin film research on II-VI Compounds.

Facilities: Molecular beam epitaxy; Hall mobility; photoluminescence; DLTS.

Current or Potential Work: self or parent, R&D for government.

Corporate R&D - London

1840 Oxford Street, London, Ontario, N5V 2Z6.

Admin. Contact: Alan G. Mills, Executive Director, Tech. Services, Tel: (519) 451-2500.

Scientific Contact: Carlisle S. Boyce, R&D Manager, London, Tel: (519) 451-2500.

Personnel: Total is 11 of which 9 are scientists and engineers.

Activities: 1) Filled/unfilled abrasion resistant coatings; 2) Fluorochemical synthesis; 3) Electro medicine; 4) Biotechnology (exploratory).

Facilities: SX-20 FT-IR; Varian Vista 6000 GC/402 processor; Varian 3700 GC; Varian 5000 LC; Beckman DB-GT; 1L 151 AA spectrophotometer.

Current or Potential Work: self or parent.

430451 ONTARIO LIMITED - OPERATING AS LIMNOTERRA

309 Lancaster St. W., Kitchener, Ontario, N2H 4V4.

Environmental Electronics Group

Contact: Dr. R.J. Planck, President, Tel: (519) 579-3860.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Ecological data acquisition using microprocessor based instrumentation. We have developed: 1. digital calipers; 2. a behavioral event recording system which can be used under water; 3. a low cost data logger; 4. a digital fish measuring board. We are still working on improvements to the above and investigating new ways for aging fish using otoliths and scales.

Facilities: Several microprocessor systems; various electronic equipment; various optical instruments.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

A-B BIOLOGICAL SUPPLIES INC.

P.O. box 65, Grimsby, Ontario, L3M 4G1.

Research Unit

P.O. Box 2000, Stn A, Hamilton, Ontario, L8N 3Z5.

Contact: Dr. Jack Gauldie, Vice-President, Product Research & Development, Tel: (416) 575-0154.

Personnel: Total is 15 of which 8 are scientists and engineers.

Activities: Medical Diagnostic Test Systems using Immunochemical methods.

Current or Potential Work: self or parent, R&D for private sector.

A. LASSONDE & FILS INC.

170 - 5e avenue, Rougemont, Québec, J0L 1M0.

Lassonde Technologie Inc.

Admin. Contact: Jean-Paul Barré, Président, directeur général, Tel: (514) 469-3122.

Scientific Contact: Pierre Boisclair, Ingénieur, Tel: (514) 469-3122.

Personnel: Total is 6 of which 2 are scientists and engineers.

Activities: Development of a new flocculation-flotation technique for the continuous clarification of fruit (such as apple, grape and pear) juices that pass through a flocculation stage before particles separate.

Facilities: Flottatest equipment for laboratory simulation; pilot flotation equipment (rate: 300 litres per hour).

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

A.E.I. TELECOMMUNICATIONS (CANADA) LTD.

419 Notre Dame Ave, Winnipeg, Manitoba, R3B 1R3.

Development Engineering Dept.

Admin. Contact: Mr. K.R. Yates, President, Tel: (204) 942-7221.

Scientific Contact: Mr. I.G. Sutherland, Development Eng. Mgr., Tel: (204) 942-7221.

Personnel: Total is 16 of which 4 are scientists and engineers.

Activities: The Development Engineering Department designs Telecommunication Products, which are both Hardware and Software oriented, such as: Automatic Number Identification systems (ANIPAK), Emergency Reporting System (TELEPAK/ERS), Electronic programmable controllers, Telephone Answering Switchboards and other related Telephone Switching and Peripheral Equipment.

Current or Potential Work: self or parent.

ABCO PLASTICS LIMITED

P.O. Box 299, Mahone Bay, Nova Scotia, B0J 2E0.

ABCO Plastics

Admin. Contact: H.D. Steeves, P.Eng., Vice-President, Tel: (902) 624-8383.

Scientific Contact: G.A. Escher, P.Eng, Company Engineer, Tel: (902) 624-8383.

Personnel: Total is 6 of which 6 are scientists and engineers.

Activities: Research in reinforced plastics, design criteria, cyclical and acoustic testing, resistance to abrasion and ways to improve, chemical resistance, structures development, specialized piping.

Facilities: Cyclic and acoustic testing; abrasion testing.

Current or Potential Work: self or parent, R&D for private sector.

ABITIBI-PRICE INC.

Toronto Dominion Centre, Toronto, Ontario, M5K 1B3.

Sheridan Park

2240 Speakman Drive, Mississauga, Ontario, L5K 1A9.

Admin. Contact: W. Labunski, Manager of Research Services, Tel: (416) 822-4770.

Scientific Contact: M.T. Neill, Vice-President, Research & Development, Tel: (416) 822-4770.

Personnel: Total is 51 of which 27 are scientists and engineers.

Activities: Wood pulping, bleaching, papermaking, and coating. Process and product development for newsprint, groundwood printing, and fine papers. Pulp, paper, and chemical testing.

Facilities: Pulping pilot plant; paper coater; printing presses.

Current or Potential Work: self or parent.

Kenogami

Papeterie Kenogami (Mill), Jonquière, Québec, G7X 5J7.

Contact: W.G. Mihelich, Research Manager, Tel: (418) 542-4541.

Personnel: Total is 11 of which 3 are scientists and engineers.

Activities: Pulping and bleaching process development for newsprint and groundwood printing papers. Pulp, paper, and chemical testing.

Facilities: Pulping pilot plant.

Current or Potential Work: self or parent.

ACTOL CHEMICALS LTD.

#6 Route 132, Delson, Québec, J0L 1G0.

Research Unit

Contact: Neil Tomiuk, R&D Manager, Tel: (514) 632-2200.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: 1. Modification of starch: starch ethers, starch esters, anionic starches, cationic starches, etc. 2. Emulsion polymers: polyvinyl acetate emulsions, acrylic emulsions, co-polymers of the two. 3. Polyvinyl alcohol.

Current or Potential Work: self or parent.

AGROPUR, COOPERATIVE AGRO-ALIMENTAIRE

510 rue principale, C.P. 6000, Granby, Québec, J2G 7G2.

Centre de contrôle et recherche Agropur

Contact: Roger N. Giroux, Directeur technique, Tel: (514) 375-1991.

Personnel: Total is 11 of which 6 are scientists and engineers.

Activities: Research, development and innovation in dairy science and technology; biochemistry and microbiology.

Facilities: Column chromatograph; electrophoretic apparatus; high-pressure liquid chromatography (HPLC) column; gas chromatograph.

Current or Potential Work: self or parent, R&D for government.

Note: Descriptive text has been translated from French.

ALAN MOSS & ASSOCIATES LTD

P.O. Box 400, Winfield, B.C., V0H 2C0.

Research Unit

Admin. Contact: Alan Moss, B.Sc., Ph.D., R.P.F., President, Tel: (604) 766-4441.

Scientific Contact: Alan Moss B.Sc., Ph.D., R.P.F., President, Tel: (604) 766-4441.

Personnel: Total is 5 of which 2 are scientists and engineers. (Note: Normally, total personnel in R&D unit is 11, of which 4 are scientists or

Activities: Mechanical engineering; micro-electronics for forestry and forest industrial applications: specializing to date in mechanized tree planting; R&D of a sophisticated machine monitoring/controlling microprocessor for harsh environments; tree shear; forest and forest engineering software R&D for practical and planning applications; sawmilling machinery. The firm has a cooperating agreement with a manufacturer for future manufacture of a mechanical tree planting machine(s) and plans a microprocessor R&D/manufacturing facility.

Facilities: R&D engineering workshop through sub-contract; research computer, plotter, digitizer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ALBERTA GOVERNMENT TELEPHONES COMMISSION

10020 - 100 Street 19E, Edmonton, Alberta, T5J 0N5.

Network Development, Technology Development

10020-100 St., 19-E, Edmonton, Alberta, T5J 0N5.

Admin. Contact: L. Lee, General Engineer Corp Tech Planning, Tel: (403) 425-6114.

Scientific Contact: A.E. Shankowski, Network Switching

Manager, Tel: (403) 425-7298.

Personnel: Total is 7 of which 7 are scientists and engineers.

Activities: The Network Development R&D unit has been involved in the development of technologies to enhance the telephone network's distribution, transmission, and switching systems. Action has specifically been taken in the areas of digital pole line radio, fiber optic measurements, free space laser communications, unconventional power sources, Telidon, integrated services digital network, remote alarm and meter reading, rural telephone services, common channel signaling protocols, and alarm network data acquisition.

Facilities: Technology development laboratory; engineering laboratory.

Current or Potential Work: self or parent, non R&D services for private sector.

ALBERTA LIVESTOCK TRANSPLANTS LTD.

Site 12, Box 22, R.R. #4, Calgary, Alberta, T2M 4L4.

Research Unit

Site 12, Box 22, R.R. #4, Calgary, Alberta, T2M 4L4.

Admin. Contact: T.J. Mitenko, Sec. Treasurer, Tel: (403) 239-0000.

Scientific Contact: B.F. Shea, Ph.D., Research Embryologist, Tel: (403) 239-0000.

Personnel: Total is 12 of which 4 are scientists and engineers.

Activities: Biotechnology, bovine embryo transfer and associated technologies (i.e. embryo freezing, embryo micromanipulation (splitting), non-surgical techniques in livestock embryo transfer, embryo sexing, genetic engineering).

Facilities: Clinical facilities for large animal surgery; micro manipulation equipment (for genetic engineering projects).

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

ALBERTA SULPHUR RESEARCH LTD

2500 University Dr. N.W., Calgary, Alberta, T2N 1N4.

Sulphur Research Group

c/o Chemistry, University of Calgary, 2500 University Drive N.W., Calgary, Alberta, T2N 1N4.

Admin. Contact: Dianne E. Jorgenson, Manager, Tel: (403) 284-5372.

Scientific Contact: J.B. Hyne, Director, Tel: (403) 284-5372.

Personnel: Total is 9 of which 9 are scientists and engineers.

Activities: Basic research into problems encountered in the production, separation, conversion, handling, transportation and end use of the sulphur and sulphur compounds involved in the sour natural gas industry. The sulphur research program involves geochemistry, phase behaviour, kinetics and equilibrium studies at temperatures up to 300 degrees C, heterogeneous catalysis (the Claus Process) and other more specialized expertise in electrochemistry and corrosion science. Heavy Oil research involves the study of the chemical reaction of water with components of heavy oils during steam stimulated enhanced recovery in the 200 degrees C - 300 degrees C temperature range. Parallel studies on model organosulphur compounds similar to the components of the heavy oil most susceptible to aquathermolysis are being conducted.

Facilities: High temperature/high pressure sour gas system; PAR Model 332-1 corrosion measurement system; sulphur IR analyzer; automated high performance liquid ion chromatograph system.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

ALBERTA WHEAT POOL

PO Box 2700, 505-2nd St S.W., Calgary, Alberta, T2P 2P5.

Technical Services Dept.

505-2nd St S.W., Calgary, Alberta, T2P 2P5.

Admin. Contact: Mr. R.J. Klaffke, Tech. Services Mgr.,
Tel: (403) 290-4904.

Scientific Contact: Dr. A. Kotecha, Senior Plant Breeder,
Tel: (403) 248-5256.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Canola breeding; Joint venture barley breeding.
Facilities: Greenhouse; field house; quality laboratory (being planned).

Current or Potential Work: self or parent.

ALCAN INTERNATIONAL LIMITED

1188 Sherbrooke Street West, Montréal, Québec, H3A 3G2.

Arvida Laboratories

P.O. Box 1250, Jonquière, Québec, G7S 4K8.

Contact: Dr. Donald W. Macmillan, Director,
Tel: (418) 548-1121.

Personnel: Total is 185 of which 47 are scientists and engineers.

Activities: Development, testing, publication and distribution of analytical techniques and instrumentation for chemical and physical analysis of raw materials, intermediate and final products. Improve utilization of thermal energy (from fossil fuels and electricity). Development and implementation of techniques and equipment for processing molten metal. The fields of specialization are: Optical emission, X-ray fluorescence, inductively coupled plasma, and atomic absorption spectroscopy; gas, liquid, and ion chromatography; on line analysis for non-metallic inclusions; filtration for removal of non-metallic inclusions, alkalis, and hydrogen; preparation of (batching) of aluminum alloys.

Facilities: Gas chromatograph coupled with mass spectrometer; scanning electron microscope coupled with energy dispersive X-ray fluorescence spectrometer; X-ray fluorescence; inductively coupled plasma; high temperature (2400 degrees C) induction furnace; controlled atmosphere furnaces.

Current or Potential Work: self or parent.

Kingston Laboratories

P.O. Box 8400, Kingston, Ontario, K7L 4Z4.

Contact: Dr. J.P. McGeer, Director, Tel: (613) 549-4500.

Personnel: Total is 384 of which 140 are scientists and engineers.

Activities: The nature of the R&D activities at Kingston is the production, fabrication and use of aluminum, including properties of related materials used in production fields, and to be used in combination with aluminum in marketed products. The fields of specialization are: chemistry and mineralogy of bauxite, production of alumina from ores, production of aluminum from aluminous materials, properties of carbonaceous materials (pitch, coke), aluminous chemicals and refractories, manufacture of aluminum fluoride, recycling of aluminum, chemistry of molten fluoride salts, process modelling, and aluminum and its alloy (metallurgy, fabrication of products, surface properties, solidification, composites, surface coatings, welding, corrosion).

Facilities: D&I can line; molten metal spinning equipment; magnetron sputtering equipment; overhead cable vibration equipment; scanning electron microscope; electron microscope.

Current or Potential Work: self or parent.

ALGOMA STEEL CORPORATION, LIMITED

503 Queen Street, East, Sault Ste. Marie, Ontario, P6A 5P2.

Raw Materials and Metals Research

Queen Street West, Sault Ste. Marie, Ontario, P6A 5P2.

Contact: Terence J. Borgan, Research Director,
Tel: (705) 945-2600.

Personnel: Total is 22 of which 15 are scientists and engineers.

Activities: RAW MATERIALS RESEARCH - Iron ore beneficiation, sintering and pelletization studies, coal technology and carbonization studies. METALS RESEARCH - Program directed toward process and product development of integrated steelworks. Laboratory services specialize in mechanical testing, heat treatment, dilatometric CCT and ITT studies, metallographic laboratory, SSCC testing of seamless products.

Facilities: Bench scale mineral dressing equipment; Zeiss semi automatic petrographic microscope; furnace to evaluate high temperature properties of sinter and pellets; Cambridge 250 MK SEM Kevex 7000 EDS probe; MMC quenching dilatometer and deformation head; Zeiss neophot 21 metallograph with closed circuit colour TV.

Current or Potential Work: self or parent.

ALIMENTS DELISLE LTEE

100 rue De Lauzon, Boucherville, Québec, J4B 1E6.

Département de recherche et développement

Contact: Bernard Aurouze, Directeur corporatif R&D,
Tel: (514) 655-7331.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Research into new dairy products; increase in the cost and energy-efficiency of processes; and dairy technology development.

Facilities: Various equipment.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

ALKARIL CHEMICALS LTD

3265 Wolfedale Rd, Mississauga, Ontario, L5C 1V8.

Research Unit

Admin. Contact: Ray Vaughn, Office Manager,
Tel: (416) 270-5534.

Scientific Contact: Shamel Shawki, Director, R&D,
Tel: (416) 270-5534.

Personnel: Total is 18 of which 9 are scientists and engineers.

Activities: Product research and development in Alkaril's lines of products, eg: 1) surfactants, 2) agricultural chemicals and surfactants, 3) textile chemicals, 4) water-soluble polymers (floculants, disperants, thickeners, etc.), 5) polyols for Rigid Polyurethane foams.

Facilities: Gas chromatography; high perf. liquid chromatography; size exclusion chromatography; low angle laser light scattering; infra red.

Current or Potential Work: self or parent, non R&D services for private sector.

ALLIED AUTOMOTIVE - CANADIAN FRAM LIMITED

540 Park Avenue East, Chatham, Ontario, N7M 5M7.

Canadian Fram Limited

Contact: John W. Gleason, Vice-President, Chief Technical Officer, Tel: (519) 436-3803.

Personnel: Total is 157 of which 65 are scientists and engineers.

Activities: Automotive vehicle engine cooling and heat transfer; Automotive vehicle engine fuel economy and efficiency; Automotive vehicle engine intake system cleaning and silencing; Automotive vehicle engine emission control; Automotive vehicle sound attenuation; Automotive vehicle engine accessory drive control.
 Facilities: Automotive vehicle cooling, performance and anechoic chamber.
 Current or Potential Work: self or parent, R&D for government, R&D for private sector.

ALMAX INDUSTRIES LIMITED

61 Needham Street, Lindsay, Ontario, K9V 4Z7.

Research Unit

Admin. Contact: J. David Rook-Green, Controller,
 Tel: (705) 324-5100.
 Scientific Contact: Kamal El-Assal, General Manager,
 Tel: (705) 324-5100.
 Personnel: Total is 10 of which 7 are scientists and engineers.
 Activities: Investigation of materials for "Surface Acoustic Wave Devices". Investigation of ceramic material for high frequency applications (piezoelectric ceramic materials). Development of a solid state electrolyte of the Sodium Beta Alumina type, to be used in Sodium Sulfur Batteries and in Thermoelectric Generators.
 Facilities: Spray dryer; high temperature kiln; isostatic press; hot press.
 Current or Potential Work: self or parent, R&D for government.

AMADOR HYDRAULIC SERVICES LIMITED

33 Selby Road, Brampton, Ontario, L6W 1K5.

Amador Hydraulic Services Limited

33 Selby Road, Brampton, Ontario, L6W 1K5.
 Contact: Jose H. Amador, President, Tel: (416) 457-2634.
 Personnel: Total is 2 of which 2 are scientists and engineers.
 Activities: Aerial devices.
 Current or Potential Work: self or parent.

AMCA INTERNATIONAL LIMITED

Suite 607, 200 Ronson Drive, Rexdale, Toronto, Ontario, M9W 5Z9.

Amca International Limited; Research & Technology Centre

62 Steacie Drive, Kanata, Ontario, K2K 2A9.
 Admin. Contact: Mr. D.E.H. Reynolds, Director, Research & Technology, Tel: (613) 592-6831.
 Scientific Contact: Dr. L. Malik, Manager, Metallurgy Section, Tel: (613) 592-6831.
 Personnel: Total is 29 of which 11 are scientists and engineers.
 Activities: Weldability and welding metallurgy; formability; low temperature fracture toughness characteristics of steels, and weld and HAZ; fracture analysis and fractography; welding process research; welding process and procedure development; corrosion; paint and paint system evaluation.
 Facilities: HP85 data acquisition system; 75T rigid restraint machine; 635 kN fatigue and CTOD testing machine; 800A-Synergic & 1000A - AC sq. wave power sources; waveform analyzer. 20MHz-20k storage; Singleton salt-spray cabinet.
 Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

AMERIGO TECHNOLOGY LTD

7, 3401-19 St. N.E., Calgary, Alberta, T2E 6S8.

Amerigo Research and Development Limited

7, 3401-19th Street N.E., Calgary, Alberta, T2E 6S8.
 Admin. Contact: Mr. Julian M. Romocki, Vice-President, Technology, Tel: (403) 276-9735.
 Scientific Contact: Dr. Emmanuel O. Egbogah, P.Eng., Engineering Manager, Tel: (403) 276-9735.
 Personnel: Total is 12 of which 6 are scientists and engineers.
 Activities: An energy technology company specializing in the manufacture and application of specialty oil recovery chemicals. A prime technology developer in the areas of well completions, stimulation designs (acidizing, foam fracturing) and client enhanced oil recovery optimization projects. Amerigo is also involved with land reclamation programs particularly with treatment of brine spills.
 Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

ANATEK MICROCIRCUITS INC.

240 Brooksbank Ave, North Vancouver, B.C., V7J 2C1.

Research Unit

Admin. Contact: Scott C. Lewis, President,
 Tel: (604) 980-7061.
 Scientific Contact: Mathew Krzyckowski, Chief Engineer,
 Tel: (604) 980-7061.
 Personnel: Total is 2 of which 2 are scientists and engineers.
 Activities: Thick film hybrid microcircuits development: process, circuit design and layout. RF and microwave technology using thick film process.
 Current or Potential Work: self or parent.

Thick Film RF Applications Lab

Contact: Mathew D. Krzyckowski, Chief Engineer,
 Tel: (604) 980-7061.
 Personnel: Total is 3 of which 2 are scientists and engineers.
 Activities: Application of thick film microcircuit technology to radio frequency application.
 Facilities: Rhodes Schwarz Vector analyzer; Hewlett Packard spectrum analyzer; Wiltron programmable sweep generator; Fluke synthesizer RF signal generator; Wiltron scaler network analyzer; Fluke frequency counter.
 Current or Potential Work: self or parent.

ANDEC MFG. LTD

18 Canso Road, Rexdale, Ontario, M9W 4L8.

Research Unit

Admin. Contact: S. De Walle, President,
 Tel: (416) 243-3456.
 Scientific Contact: R. De Walle, Manager, Research,
 Tel: (416) 243-3456.
 Personnel: Total is 8 of which 3 are scientists and engineers.
 Activities: Development of nondestructive examination equipment and components in the fields of: eddy currents, ultrasonics magnetic particle, x-ray, gamma-ray acoustic emission, flux leakage.
 Facilities: Special impedance bridges; eddy current instruments; ultrasonic instruments; magnetic particle equipment; magnetic field generators; coil winding equipment.
 Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ANDICO MANUFACTURING LIMITED

355 Champagne Drive, Downsview, Ontario, M3J 2C6.

Research Unit

Contact: Howard Dean, Vice-President,
Tel: (416) 636-7300.

Personnel: Total is 7 of which 4 are scientists and engineers.

Activities: Heat transfer; electric heating; vinyl stability in varying environments; temperature regulation; electronic controls; bedding durability.

Facilities: Oscilloscope; analytical balance; environmental test chamber; viscometer; hot pack incubator; bedding - hex roller.

Current or Potential Work: self or parent.

ANDREW ANTENNA COMPANY LIMITED

606 Beech Street, Whitby, Ontario, L1N 5S2.

Research Unit

Admin. Contact: P.P. Levens, Contract Administration Manager, Tel: (416) 668-3348.

Scientific Contact: W.F. Weir, Engineering Manager,
Tel: (416) 668-3348.

Personnel: Total is 8 of which 8 are scientists and engineers.

Activities: The specific areas of research and development are antennas, transmission lines and accessories from HF to 44 GHz. Antennas: parabolic reflectors, special shaped reflectors, horns, continuous line radiator (Radiax), phase arrays. Applications: microwave point-to-point, troposcatter, earth station, radar, navigation.

Facilities: Anechoic chamber; antenna test range; computer facilities; RF sweep frequency test equipment; computer control automatic antenna test equipment.

Current or Potential Work: self or parent, R&D for government.

ANTECH ANTENNA TECHNOLOGIES LTD.

16813 Hymus Blvd., Kirkland, Québec, H9H 3L4.

Research Unit

Contact: A.R. Raab, President.

Personnel: Total is 12 of which 6 are scientists and engineers.

Activities: Antennas; microwave and devices and systems.

Facilities: Fully equipped antenna/microwave lab; fully equipped M/C shop.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

APPIN SOLAR ASSOCIATES, INC.

13-77 Rue Eugénie, Winnipeg, Manitoba, R2H 0X6.

Appin Manufacturing Research and Development Division

Admin. Contact: Mr. George S. Bowman, Director,
Tel: (204) 257-4443.

Scientific Contact: Mr. Grant N. Wichenko, Director,
Tel: (204) 257-4443.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Solar systems, solar grain drying, active solar space heating systems, solar greenhouses; energy conservation building research, low-energy passive solar home, research, design and development; energy-efficient greenhouses, northern energy-efficient housing; energy-conserving building products.

Facilities: 2,000 sq ft research facility.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

APTEC ENGINEERING LIMITED

4251 Steeles Avenue West, Downsview, Ontario, M3N 1V7.

Research Unit

4251 Steeles Ave W, Downsview, Ontario, M3N 1V7.

Admin. Contact: Edward Zieba, President,
Tel: (416) 661-9722.

Scientific Contact: Howard Malm, Vice-President, R&D,
Tel: (416) 661-9722.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Semiconductor radiation detectors; gas filled radiation detectors (i.e., Geiger and ion chambers); microprocessor based radiation monitoring instruments.

Facilities: Semiconductor R/D facility; source facility; MDS (INTEL) systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ARCTEC CANADA LIMITED

311 Legget Drive, Kanata, Ontario, K2K 1Z8.

Polar Engineering Laboratory

#16 - 6325 - 11th St. S.E., Calgary, Alberta, T2H 2L6.

Contact: D.R. Miller, Vice-President, Tel: (403) 253-4883.

Personnel: Total is 12 of which 10 are scientists and engineers.

Activities: Cold regions marine engineering; ice model basin using synthetic ice; ice pressure sensors - various types and sizes; floating body motion prediction (AQWA) in regular and irregular waves; offshore structure design and assessment; remote sensing and interpretation; naval architecture of icebreakers and ice transiting ships; data acquisition and analysis.

Facilities: Ice model basin (30m long); AQWA Suite (computer program); naval architectural programs; computer based data acquisition; 400T press.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

ARCTIC SCIENCES LTD.

1986 Mills Road, R.R.2, Sidney, B.C., V8L 3S1.

Head Office

1986 Mills Road, R.R. 2, Sidney, B.C., V8L 3S1.

Admin. Contact: David B. Fissel, President,
Tel: (604) 656-0177.

Scientific Contact: John R. Marko, Director,
Tel: (604) 656-0177.

Personnel: Total is 12 of which 7 are scientists and engineers.

Activities: Research and development involving physical oceanography and sea ice, as funded by clients in government and private industry. Emphasis is placed on oceanographic instrumentation development, particularly in the use of acoustic methods; processing and analysis of sea-ice and water property data obtained from satellites and aircraft; scientific investigations of oceanic circulation; and collection and analysis of surface wave data.

Facilities: Computer System (PDP-11/24); Electronics Lab Equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

ARGUS CONTROL SYSTEMS LTD

222-172nd Street, Surrey, B.C., V4B 5A8.

Research Unit

Contact: Alec Mackenzie, Project Leader,
Tel: (604) 536-3171.

Personnel: Total is 3 of which none are scientists and engineers.

Activities: Development of microprocessor based process control and data acquisition systems for use in agriculture.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ARRISCRAFT CORPORATION

Box 3190, Cambridge, Ontario, N3H 4S8.

Research Unit

Contact: R. White, Executive Vice-President,
Tel: (519) 653-3275.

Personnel: Total is 11 of which 6 are scientists and engineers.

Activities: Calcium-silicate stone and brick manufacture.

Current or Potential Work: self or parent.

ASHLAND CHEMICALS (DIV OF VALVOLINE OIL & CHEMICALS LTD.)

2620 Royal Windsor Drive, Mississauga, Ontario, L5J 4E7.

Resin & Chemicals Laboratory, Mississauga

Admin. Contact: Brian R. Wakeford, President,
Tel: (416) 823-1800.

Scientific Contact: Tom Mitsopoulos, Laboratory Manager,
Tel: (416) 823-1800.

Personnel: Total is 15 of which 6 are scientists and engineers.

Activities: Thermosetting synthetic resins; coatings resins in general; unsaturated polyesters; phenolic resins.

Facilities: Analytical and testing equipment suitable for the above products.

Current or Potential Work: self or parent.

ATLANTIC ANALYTICAL SERVICES LIMITED

275 City Road, Saint John, New Brunswick, E2L 3N3.

Research Unit

Admin. Contact: W.J. Wilson, President,
Tel: (506) 642-1117.

Scientific Contact: A. Feicht, Analytical Coordinator,
Tel: (506) 642-1117.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: Contract research and development generally dealing with product formulation or process development. The products we have developed vary from soap and detergent formulation to food products like flavour drink crystals, hot chocolate mixes and a pancake powder mix. For the industrial market, products such as an activated carbon and a catalyst package for chlorine dioxide regeneration have been developed. We have investigated processes for descaling industrial evaporators, silver recovery from industrial waste and recovery of metals from ores.

Facilities: Gas chromatograph; atomic absorption spectrophotometer; infrared spectrophotometer; nitrogen analyzer; x-ray fluorescence spectrophotometer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ATMOLYSAIR LTEE

C.P. 21, St. Chrysostôme, Québec, J0S 1R0.

Research Unit

Contact: André Lanson, Président, Tel: (514) 826-4536.

Personnel: Total is 1 of which none are scientists and engineers.

Activities: Storage and preservation of fruits and vegetables (atmospheric control systems); electronic instrumentation for the agri-food industry (electronic controllers).

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

AUTONETICS RESEARCH ASSOCIATES INC.

5317 Sooke Rd, R.R. #1, Sooke, B.C., V0S 1N0.

Research Unit

5317 Sooke Rd., R.R. #1, Sooke, B.C., V0S 1N0.

Admin. Contact: Dr. K.H.V. Booth, Managing Director,
Tel: (604) 642-5352.

Scientific Contact: Dr. A.D. Booth, President,
Tel: (604) 642-5352.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: X-Ray crystallography; ocean acoustics; digital computer design and programming; low-temperature, solid-state physics; numerical analysis.

Facilities: 6502, 280A, 68000 computers; On-line to Univac 1107, HP1000; full range of micro-photographic equipment; full range of electronic test equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

AVMOR LTD.

433 St. Helen Street, Montréal, Québec, H2Y 2L1.

Avmor Ltd

Contact: A. Morrow, President, Tel: (514) 849-8074.

Personnel: Total is 5 of which 4 are scientists and engineers.

Activities: Polymer emulsification, detergents, soaps, cosmetics, industrial cleaners.

Current or Potential Work: self or parent.

B H LEVELTON & ASSOCIATES LTD.

8805 Osler St, Vancouver, B.C., V6P 4G1.

B H Levelton & Associates Ltd

8805 Osler St., Vancouver, B.C., V6P 4G1.

Contact: B.H. Levelton, President, Tel: (604) 266-1411.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: 1. Food processing - flash drying, effect of sonic energy. 2. Hazardous wastes - recovery of metals from sludges. 3. Concrete - high strength concrete for arctic use. 4. Lightweight aggregate - from coal mining waste.

Current or Potential Work: R&D for government, R&D for private sector.

B.C. HYDRO

970 Burrard Street, Vancouver, B.C., V6Z 1Y3.

Research and Development

12388-88th Avenue, Surrey, B.C., V3W 7R7.

Admin. Contact: R.W. Shemko, Admin & Tech Services,
Tel: (604) 590-7453.

Scientific Contact: Dr. H.M. Ellis, Director, Research & Development, Tel: (604) 590-7400.

Personnel: Total is 129 of which 48 are scientists and engineers.

Activities: Provides comprehensive research, development and testing facilities to aid in the solution of Hydro's technical problems relating to electricity and gas. The Chemical Research Department is engaged in research projects, field problem solving, and quality control testing of such things as environmental samples, new products, and in-service materials. The Electrical Research Department provides service comprising field, analytical, and laboratory projects related to Hydro's generation, transmission and distribution system. The Materials Research Department carries out materials research in the fields of mechanical, metallurgical and civil engineering.

Facilities: Extra high voltage hall; high power laboratory; gas and liquid chromatographs; mass spectrograph; PCB emission spectrograph; DuPont thermal analysis system; infrared spectrophotometers; PCB destruction equipment; electronic microscope; Modal analysis equipment; tensile

test machine. Full range of mechanical test equipment including creep,
Current or Potential Work: self or parent, R&D for government, R&D for private sector.

B.E.L. - TRONICS LIMITED

2422 Dunwin Drive, Mississauga, Ontario, L5L 1J9.

B.E.L.- TRONICS

Admin. Contact: R.J.C. Sagl, President,
Tel: (416) 828-1002.

Scientific Contact: Glen Martinson, Vice-President,
Engineering, Tel: (416) 828-1002.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Microwave and R.F. circuit and system design. Design and development oscillators, antennas, mixers, low noise amplifiers, and filters in the frequency range 3-26 GHz. Utilizing microstrip or wave guide technology. Development of complete low noise receiving systems, to 26 GHz. Microwave Dopler intrusion detection systems.

Facilities: Computer aided engineering facilities: scalar network Analyser 10 MHz - 26 GHz; swept signal sources to 26 GHz; anechoic chambers for microwave RCVR sensitivity measurements; noise figure meter 10 MHz - 18 GHz; microstrip circuit fabrication and beam lead handling facilities; spectrum analysers 1- MHz - 22 GHz.

Current or Potential Work: self or parent.

BACH-SIMPSON LIMITED

1255 Brydges Street, London, Ontario, N5W 2C2.

Research Unit

Admin. Contact: S.J. Williams, President,
Tel: (519) 452-3200.

Scientific Contact: Victor Carriere, Chief Engineer,
Tel: (519) 452-3200.

Personnel: Total is 14 of which 6 are scientists and engineers.

Activities: Medical diagnostic ultrasound, especially doppler blood flow detection and measurement; industrial measurement instrumentation including process control; plastic parts fabrication.

Facilities: Environmental lab; electrical standards; tool design and fabrication.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

BACON, DONALDSON & ASSOCIATES LTD

2036 Columbia St., Vancouver, B.C., V5Y 3E1.

Research Unit

2036 Columbia St, Vancouver, B.C., V5Y 3E1.

Admin. Contact: K.C. Donaldson, Secretary,
Tel: (604) 879-8461.

Scientific Contact: M.J.V. Beattie, Manager,
Tel: (604) 879-8461.

Personnel: Total is 16 of which 9 are scientists and engineers.

Activities: Hydrometallurgy - leaching, pressure leaching, precipitation, electrowinning, precious metal recovery. Mineral processing - surface chemistry, flowsheet development, novel extraction techniques. Mineralogy - optical microscopy, SEM-EDS analysis, x-ray diffraction. Physical metallurgy - corrosion studies, physical testing, alloy evaluation, welding specifications.

Facilities: Electron microscope (SEM, TEM); electrochemistry system; pressure leaching vessels; tensile and impact testing; analytic chemistry.

Current or Potential Work: R&D for private sector, non R&D services for private sector.

BARDER INDUSTRIES LTD

82 Doncaster Ave, Thornhill, Ontario, L3T 1L3.

Electronic Process Controls

Admin. Contact: H. Barder, Director, Tel: (416) 889-6636.
Scientific Contact: S. Harding, Chief Engineer,

Tel: (416) 889-6636.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: Complete design of controllers for automatic industrial machine control, logic circuit design, printed circuit board design and layout. Development of completed product.

Current or Potential Work: self or parent.

BARRINGER MAGENTA LIMITED

304 Carlingview Drive, Rexdale, Ontario, M9W 5G2.

Research Unit

Admin. Contact: Carmela Succi, Director, Research & Mktg, Tel: (416) 675-3870.

Scientific Contact: Andrew Murray, Vice-President,
Tel: (416) 675-3870.

Personnel: Total is 28 of which 16 are scientists and engineers.

Activities: 1) Analytical instrumentation development - organic and inorganic trace detection systems. 2) Analytical methods of development - organic and inorganic chemistry (geochemical environmental and health applications). 3) Geochemical exploration of minerals and hydrocarbons (lithogeochemistry, hydrogeochemistry and biogeochemistry). 4) Environmental modelling of hydrogeochemistry (acid rain). 5) R&D related to air pollution monitoring and analysis. 6) Automation of analytical instrumentation (digital electronics and computer automation). 7) Remote Sensing - (environmental pollutants, mineral and hydrocarbon exploration). 8) R&D related to rapid instrumental detection of bacteria in soil and air. 9) Spectroscopy - optical detection systems.

Facilities: Helium microwave detector; ion chromatograph; mercury spectrometer; reflectance spectrometer; LASERTRACE (inductively coupled Argon plasma spectrometer); gas chromatograph mass spectrometer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

BARRINGER RESEARCH LTD

304 Carlingview Drive, Rexdale, Ontario, M9W 5G2.

Barringer Research Limited

Admin. Contact: Carmela Succi, Director of Marketing,
Tel: (416) 675-3870.

Scientific Contact: Andy Murray, President of Operations,
Tel: (416) 675-3870.

Personnel: Total is 32 of which 20 are scientists and engineers.

Activities: Major advanced techniques and instrumentation for the earth sciences and for pollution monitoring. Products: COTRAN (R) (airborne electromagnetics) metal detection; AIRTRACE (R); SURTRACE (R); LASERTRACE (R); GASPEC (R): (gas correlation spectrometer for sensing trace molecules gases); COSPEC (R) (SO₂ and NO₂ remote sensor); major technology domains: remote sensing, electro-optical; electromagnetics; aerosol collection and analysis.

Facilities: Correlation spectrometer; reflectance spectrometer; hand held ratioing radiometer; mercury spectrometer; laser fluorosensor; custom sensors based on optical, infrared, electromagnetic technology.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

BATE CHEMICAL CO LTD

1210 Sheppard Ave E., Ste 113, Willowdale, Ontario, M2K 1E3.

Polyresins Division Research & Development

44 Beechwood Dr., East York, Ontario, M4K 3H8.

Admin. Contact: M.J. Stasko, Vice-President and General Manager, Tel: (416) 425-4010.

Scientific Contact: F.A. Pugsley, Technical Director, Tel: (416) 425-4010.

Personnel: Total is 9 of which 4 are scientists and engineers.

Activities: Protective coatings - solution acrylics, emulsions, alkyds; adhesives - polyvinylacetates, pressure sensitive adhesives - solution and emulsion; thickeners - sodium polyacrylate solutions, alkali swellable emulsions; viscosifiers - sodium polyacrylate for decreasing viscosity in oil drilling muds; self cross linking emulsions - non woven materials.

Facilities: Infrared spectrophotometer; gas liquid chromatograph; UV-visible spectrophotometer.

Current or Potential Work: self or parent.

BAUSCH & LOMB - SEMCO DIVISION

2930 Baseline Road, Ottawa, Ontario, K2H 8T5.

Bausch & Lomb - Semco Division, Dept. of R&D

Contact: David A. Shaw, Director of R&D, Tel: (613) 820-9437.

Personnel: Total is 13 of which 5 are scientists and engineers.

Activities: R and D activities are all related to the development of advanced scanning electron microscopes. Fields of specialization include: high brightness LaB6 electron sources; high resolution electron lenses; low energy electron beam systems; non-destructive inspection and measurement of semiconductor devices and wafers; high precision measurement of sub-micron lines on semiconductors; electron detector systems using electron channelling techniques; high speed, non-contaminating handling of large semiconductor wafers in high vacuum enclosures.

Facilities: Programmable glass drawing apparatus; electron source brightness measurement equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

BBT GEOTECHNICAL CONSULTANTS LTD

3051 Parsons Rd, Edmonton, Alberta, T6N 1C8.

Research Unit

Admin. Contact: R. C. E. McKeeskin, Manager of Engineering, Tel: (403) 463-9308.

Scientific Contact: Mr. Leonard Baskin, Director, Technical Services, Tel: (403) 463-9308.

Personnel: Total is 8 of which 6 are scientists and engineers.

Activities: Materials testing, geotechnical consulting.

Facilities: Geotechnical and materials testing laboratory.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Research Unit

6423A Burbank Rd S.E., Calgary, Alberta, T2H 2E1.

Admin. Contact: Steve Mufvflak, Branch Manager, Tel: (403) 252-1106.

Scientific Contact: Mr. Les Korchinski, Branch Manager, Tel: (403) 252-1106.

Personnel: Total is 7 of which 5 are scientists and engineers.

Activities: Materials testing and geotechnical consulting.

Facilities: Geotechnical and materials testing laboratory.

Research Unit

221 Jessop Ave, Saskatoon, Saskatchewan, S7N 1Y3.

Contact: Mr. Andrew Muir, P.Eng., Manager, Saskatchewan Operations, Tel: (306) 373-6161.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Materials testing and geotechnical consulting.

Facilities: Geotechnical and materials testing laboratory.

Research Unit

608 McLeod St., Regina, Saskatchewan, S4N 4Y1.

Contact: Mr. Gene Froc, Manager of Engineering, Tel: (306) 949-2102.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Materials testing and geotechnical consulting.

Facilities: Geotechnical and materials testing laboratory.

Research Unit

5406-52nd Ave, Lloydminster, Saskatchewan, S9V 1K5.

Contact: Mr. Bob Kennett, Branch Manager, Tel: (403) 875-8975.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Materials testing and geotechnical consulting.

Facilities: Geotechnical and materials testing laboratory.

Research Unit

#1, 70-17th St. W., Prince Albert, Saskatchewan, S6V 3X3.

Contact: Mr. Mark Humbert, Branch Manager, Tel: (306) 922-4888.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Materials testing and geotechnical consulting.

Facilities: Geotechnical and materials testing laboratory.

BEALES STEEL PRODUCTS LTD

20190-24th Ave, Langley, B.C., V3A 4P5.

Beales Steel Products Ltd, R&D Department

20190 - 24th Ave, Langley, B.C., V3A 4P5.

Admin. Contact: Ken Wilby, President, Tel: (604) 534-7851.

Scientific Contact: Nick Cindrich, Engineering Manager, Tel: (604) 534-7851.

Personnel: Total is 7 of which 5 are scientists and engineers.

Activities: Research into the requirements and nature of specialized equipment for the earthmoving, mining and logging machinery industries. Specializes in the research and development of extreme service products.

Facilities: Destructive testing equipment; pressure testing equipment.

Current or Potential Work: self or parent.

BEARSPAW LOGGING SERVICES LTD

103-2827 18 St. N.E., Calgary, Alberta, T2E 7K5.

R&D Department

Admin. Contact: Mr. Wayne Wasmann, V-President; Finance, Tel: (403) 276-8817.

Scientific Contact: Mr. Tad Salamon, V-President Technical Services, Tel: (403) 276-8814.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Engaged in the development of computer-based sensory and monitoring systems that can interface with an oil or gas drilling rig. The instrumentation, micro-processor based, provides the operator with an array of data from hydraulic flows and pressures, bit position, hydrocarbon content of drilling mud to allow for on-site analysis of reservoir intrusion and feasibility.

Facilities: On-site testing facilities; in-house testing capabilities.

Current or Potential Work: self or parent.

BEAVER'S DENTAL PRODUCTS

P.O. Box 900, Morrisburg, Ontario, K0C 1X0.

Research Unit

Contact: Willis Spencer, Manager R&D,
Tel: (613) 543-3791.

Personnel: Total is 7 of which 2 are scientists and engineers.

Activities: Dental BUR development; specialized machine design; carbide development for BURs.

Current or Potential Work: self or parent.

BELL CANADA

1050 Beaver Hall Hill, 13th Floor, Montréal, Québec, H2Z 1S4.

H.Q. Engineering

160 Elgin St., 11th floor, Ottawa, Ontario, K1G 3J4.

Admin. Contact: P.J. Chagnon, Vice-President
(Engineering), Tel: (613) 239-2766.

Scientific Contact: D.A. Carruthers, Assistant V-President
(Eng)(P&S), Tel: (613) 239-4066.

Personnel: (Note: Not available)

Activities: Conducts research and development into all facets of telecommunications to maintain a world leadership position. Areas of Specialization include (a) Strategic Planning for the establishment of National and International Standards, (b) research and development of digital switching and transmission systems for voice, data and image telecommunications services, (c) research and development of fibre optics for loop and trunk applications in the telecommunications network, (d) research and development on a wide range of new voice, data and image services to serve the business and residential markets.

Current or Potential Work: self or parent.

BENDIX AVELEX INCORPORATED

PO Box 2140, Montreal, Québec, H4L 4X8.

Bendix Avelex Incorporated, Engineering Department

Admin. Contact: M.G. Quaid, Director, Engineering,
Tel: (514) 744-2811.

Scientific Contact: D. Petrov, Manager, Special Products,
Tel: (514) 744-2811.

Personnel: Total is 74 of which 36 are scientists and engineers.

Activities: Fuel controls for gas turbine engines, land navigation systems, gun alignment and control systems, opto-electronics including semiconductor laser projection systems and infrared receivers, analysis of magnetic fields, ultrasonics, heat transfer.

Facilities: Microprocessor development system, HP64000.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

BIO-ENDO INC.

10900, Rue Hamon, Montreal, Quebec, H3M 3A2.

Research Unit

Admin. Contact: Pierre Dallaire, c.g.a., Directeur
administratif, Tel: (514) 331-7520.

Scientific Contact: Pierre Du Ruisseau, Ph. D., Directeur,
recherche et développement, Tel: (514) 331-7520.

Personnel: Total is 23 of which 23 are scientists and engineers.

Activities: Development of radio-, enzyme- and fluoro-immunoassay kits involving polyclonal or monoclonal antibodies (obtained via the hybridoma technique) for use in endocrinology (hormones) or in clinical oncology (tumour markers).

Facilities: Gamma scintillation counters.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

BIO-RESEARCH LABORATORIES LTD,

87 Senneville Road, Senneville, Québec, H9X 3R3.

Bio-Research Laboratories Ltd

87 Senneville Rd, Senneville, Québec, H9X 3R3.

Contact: Dr. Guy Marier, Vice-President,
Tel: (514) 457-2280.

Personnel: Total is 365 of which 93 are scientists and engineers.

Activities: Life Sciences - Toxicology (acute, general, inhalation, teratology reproduction, genetic); Clinical Research (pharmacokinetics, bio-analysis, Phase I studies).

Facilities: Sophisticated inhalation equipment; GC, HPLC, GC/Mass SPEC; fully computerized.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

BIOKINETICS AND ASSOCIATES LIMITED

1481 Cyrville Rd, Ottawa, Ontario, K1B 3L7.

Research Unit

Contact: J.A. Newman, President, Tel: (613) 744-1073.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Automotive safety. Automotive, industrial and military protection systems.

Facilities: Helmet impact testing apparatus.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

BLUE MOUNTAIN POTTERY LIMITED

2 Mountain Road, Collingwood, Ontario, L9Y 3Z8.

Pottery Division

Admin. Contact: B. Lilly, President, Tel: (705) 445-3000.

Scientific Contact: Mahmood Kapadia, Chief Ceramic
Engineer, Tel: (705) 445-3000.

Personnel: Total is 8 of which 2 are scientists and engineers.

Activities: Design and development of: clay bodies, glazes; moulds; processing methods.

Facilities: Laboratory equipment for ceramic processing.

Current or Potential Work: self or parent.

B M Hi-Tech Inc.

Scientific Contact: Dr. S.E. Prasad, General Manager,
Tel: (705) 445-3671.

Personnel: Total is 8 of which 2 are scientists and engineers.

Activities: Development of advanced ceramics: current ceramics include piezoelectrics and boron nitride; design and development of new materials for transducers; design and development of special devices; development of composite materials.

Facilities: High temperature furnaces; sputtering/vacuum facilities; high voltage power supplies.

Current or Potential Work: self or parent, non R&D services for private sector.

BORDEN CHEMICAL, DIVISION OF THE BORDEN COMPANY LIMITED

610 Coronation Drive, West Hill, Ontario, M1E 4R9.

R&D Department - Borden Chemical, West Hill

595 Coronation Drive, West Hill, Ontario, M1E 4R9.

Admin. Contact: T.F. Dempster, Director of Finance &
Administration, Tel: (416) 281-6000.

Scientific Contact: M. Navratil, Manager, Research &
Development, Tel: (416) 281-6000.

Personnel: Total is 16 of which 14 are scientists and engineers.

Activities: Development of resins and adhesives.

Facilities: Equipment for development, analysis and testing of resins and adhesives.

Current or Potential Work: self or parent.

R&D Department - Borden Chemical Western, Vancouver

1550 Rand Avenue, Vancouver, BC, V6P 3G2.

Admin. Contact: P. O'Dell, General Manager,
Tel: (604) 261-9356.

Scientific Contact: B. Scott, Laboratory Manager,
Tel: (604) 261-9356.

Personnel: Total is 5 of which 5 are scientists and engineers.

Activities: Development of resins and adhesives.

Facilities: Equipment for development, analysis and testing of resins and adhesives.

Current or Potential Work: self or parent.

BOREAL PROJECTS LTD

Box 69 (Boreal Gardens), Churchill, Manitoba, R0B 0E0.

Boreal Gardens

Box 69, Churchill, Manitoba, R0B 0E0.

Admin. Contact: Mr. William R. Erickson, President & Manager, Tel: (204) 675-8866.

Scientific Contact: Mr. William A. Erickson, President & Manager, Tel: (204) 675-8866.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Energy conservation - particularly as applied to greenhouses in arctic and sub-arctic conditions; technical maintenance of on-going experiments put in place in Churchill by other researchers. Such maintenance is performed on an "as required" basis.

Facilities: 700 sq.ft. electrically heated greenhouse space; 1500 sq.ft. enclosed growing space; 500 sq.ft. greenhouse connected to heat sink; heat sink; 6kw wind-turbine.

BOW VALLEY RESOURCE SERVICES LTD

1700, 321-6th Avenue S.W., Calgary, Alberta, T2P 2V8.

Mainland Manufacturing

15100 River Road, Richmond, British Columbia, V6V 1L5.

Admin. Contact: George Cyrany, Chief Engineer,
Tel: (604) 273-1455.

Scientific Contact: Frank Dean, Engineer,
Tel: (604) 273-1455.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Horizontal disc waferizer for the wafer and oriented strand board industry. Our target is to consistently achieve the optimum size and thickness wafers with the minimum amount of fines. We are developing a variable speed infeed to the waferizer which we feel is the key to consistent thickness and are also considering other assemblies within the machine to produce strands. This would then allow the one machine to produce both wafers or strands by simple interchange of components.

Current or Potential Work: self or parent.

Bow Valley Research

1313 - 44 Avenue N.E., Calgary, Alberta, T2E 6L5.

Admin. Contact: Harold Paskall, Vice-President, Contract Research, Tel: (403) 276-8806.

Scientific Contact: Robin Rankine, Vice-President, Research, Tel: (403) 276-8806.

Personnel: Total is 10 of which 3 are scientists and engineers.

Activities: Process research - sulphur recovery processes; process analyzer development; computer software development; real time data acquisition; contract research.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

BREWING & MALTING BARLEY RES. INST.

206-167 Lombard Ave, Winnipeg, Manitoba, R3B 0T6.

Research Unit

Contact: W.W. Sisler, Manager-Director,
Tel: (204) 942-1407.

Personnel: Total is 4 of which 1 is a scientist or engineer.

Activities: Evaluation of the brewing quality of new barley selections as part of the grain variety licensing system.

Facilities: Pilot Brewery.

Current or Potential Work: self or parent, non R&D services for government.

BRISTOL AEROSPACE LIMITED

P.O. Box 874, Winnipeg, Manitoba, R3C 2S4.

Bristol Aerospace Limited, Engineering Division

Admin. Contact: J.M. Symonds, Manager, Eng. Administration, Tel: (204) 775-8331.

Scientific Contact: W.R. Bullock, Vice-President, Engineering, Tel: (204) 775-8331.

Personnel: Total is 145 of which 54 are scientists and engineers.

Activities: Rocket propulsion, vehicle dynamics and design; rocket vehicle guidance; environmental data collection, satellite transmission, TCXO development; aircraft accessories; new composite materials processes.

Facilities: Test and development laboratories; electronics development laboratory; rocket static test facility; environmental test laboratory; engineering prototype shops.

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

BRITISH COLUMBIA TELEPHONE COMPANY

19-3777 Kingsway, Burnaby, B.C., V5H 3Z7.

Microtel Pacific Research (A Subsidiary of Microtel Limited)

8999 Nelson Bay, Burnaby, British Columbia, V6A 4B5.

Admin. Contact: A. N. Rosser, Director of Human Resources and Administration, Tel: (604) 294-1471.

Scientific Contact: John Myles, Vice-President, Product Development, Tel: (604) 294-1471.

Personnel: Total is 307 of which 275 are scientists and engineers.

Activities: MPR is dedicated to the design and development of analog and digital telecommunications equipment. Specific fields of expertise include: software development, VLSI design, linear and microwave signal processing, telecommunications systems planning.

Facilities: VLSI design facility (Pacific Micro-electronics Centre); automated design tools; large computer capacity.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

BROUWER TURF EQUIPMENT LIMITED

R.R. #2, Woodbine Avenue, Keswick, Ontario, L4P 3E9.

Research Development Department

R.R. #2, Woodbine Ave, Keswick, Ontario, L4P 3E9.

Admin. Contact: Gerry Brouwer, President,
Tel: (416) 476-4379.

Scientific Contact: Denver Dickie, Chief Engineer,
Tel: (416) 476-4379.

Personnel: Total is 14 of which 3 are scientists and engineers.

Activities: Design, development and testing of equipment related to the turf industry including: planting equipment for turf seed and fertilizer; sod harvesters for sod producers; sod cutters for landscapers and rental stores; turf rollers for landscapers and rental stores; gang reel mowers, tow behind tractor mount and self-propelled for all applications; light weight rough terrain fork lifts for sod handling and other applications; grass collectors for sod producers and golf courses.
Current or Potential Work: self or parent.

C S P FOODS LTD

Box 190 (500-119 4th Ave S.), Saskatoon, Saskatchewan, S7K 3K7.

Corporate Office

P.O. Box 190, Saskatoon, Saskatchewan, S7K 3K7.

Contact: Mr. D.K. Loewen, Executive Director, Research & Technology, Tel: (306) 934-3268.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Vegetable oil; canola oil; refining; deodorization; sunflower oil; winterization; interesterification; margarine, shortening, salad oils; icings; flours; bakery mixes; emulsifiers; dough conditioners; wheat germ; wheat germ oil; pre-gelatinized flour; physical refining.

Facilities: Votator pilot plant; interesterification pilot plant; deodorizer pilot plant; bakery.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

C&C YACHTS LIMITED

526 Regent St., P.O. Box 970, Niagara-on-the-Lake, Ontario, L0S 1J0.

C&C Yachts Limited, Research & Development Group

526 Regent Street, Niagara-on-the-Lake, Ontario, L0S 1J0.

Contact: Michael A. Reed, Director, Technology and Communications, Tel: (416) 468-2101.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Research into the design and development of both existing and new materials, production parts, processes and machinery, primarily for marine usage in the areas of recreational and racing sailcraft, as well as for commercial and paramilitary craft. Other areas currently being investigated by this R&D unit include the transportation field (bus, auto and truck bodies), industrial use such as telephone poles and cold boxes, and environmental and agricultural applications. Fields of specialization encompass adhesives, resins, composite materials, plastics, foams and core materials adaptable to the marine and other areas wherein the Company's concentration is directed.

Facilities: Vacuum bagging equipment; liquid control structural bonding equipment; resin dispensing equipment; moisture meter, freezer.

Current or Potential Work: self or parent, non R&D services for private sector.

C-I-L INC.

90 Sheppard Avenue East, North York, Ontario, M2N 6H2.

C-I-L Paints Research Lab.

1330 Castlefield Avenue, Toronto, Ontario, M6B 4B3.

Contact: Dr. Ian H. McEwan, Research Manager, Tel: (416) 787-2411.

Personnel: Total is 69 of which 30 are scientists and engineers.

Activities: Industrial finishes, protective coatings.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

Chemetics International Ltd

1818 Cornwall Avenue, Vancouver, B.C., V6J 1C7.

Admin. Contact: Mr. Osborne, Project Control Manager, Tel: (604) 734-1200.

Scientific Contact: Dr. Ian Warren, Technical Corporate Consultant, Tel: (604) 734-1200.

Personnel: Total is 12 of which 9 are scientists and engineers.

Activities: Field of R&D is related to new chemical processes and improvement of existing processes.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

C-I-L Chemicals Research Laboratory

2101 Hadwen Road, Sheridan Park Research Community, Mississauga, Ontario, L5H 2L3.

Admin. Contact: Dr. J.A. Sharp, Manager, Laboratories Administration, Tel: (416) 823-7160.

Scientific Contact: Dr. David Fung, Research Manager, Tel: (416) 823-7160.

Personnel: Total is 30 of which 26 are scientists and engineers.

Activities: Commodity chemicals for pulp and paper, sulphur products and agricultural chemicals.

Current or Potential Work: self or parent, non R&D services for private sector.

C-I-L Plastics Technical Centre

142 Kennedy Road, Brampton, Ontario, L6W 3G5.

Contact: E.L. Kemp, Technical Centre Manager, Tel: (416) 451-1630.

Personnel: Total is 32 of which 10 are scientists and engineers.

Activities: Polyethylene resins and films.

Current or Potential Work: self or parent, non R&D services for private sector.

CXA Ltd

Maple Street, Brownsburg, Québec, J0V 1A0.

Contact: D. Welsh, Research Manager, Tel: (514) 533-4201.

Personnel: Total is 24 of which 7 are scientists and engineers.

Activities: Explosive detonators and cord.

Current or Potential Work: self or parent.

Alchem Inc.

1055 Truman Street, Burlington, Ontario, L7R 3Y9.

Contact: R.W. Blakey, Controller, Tel: (416) 632-8791.

Personnel: Total is 11 of which 9 are scientists and engineers.

Activities: Water treatment chemicals.

Current or Potential Work: self or parent, non R&D services for private sector.

C-I-L Resource Business Area

Suite 3050, Bow Valley Square Four, Calgary, Alberta, T2P 3H7.

Contact: Dr. H.H. Holton, Research Manager, Tel: (403) 234-8660.

Personnel: Total is 8 of which 6 are scientists and engineers.

Activities: Research and Development in oil and gas specialty chemicals and services including oil well stimulation.

Current or Potential Work: self or parent, non R&D services for private sector.

C-I-L Explosives Research Lab.

McMasterville, Québec, J3G 1T9.

Admin. Contact: Dr. J.P. Richard, Research and Technical Manager, Tel: (416) 229-8143.

Scientific Contact: Dr. M.P. Wenkoff, Laboratory Manager, Tel: (514) 467-3314.

Personnel: Total is 70 of which 30 are scientists and engineers.

Activities: Explosives.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CAE DIECAST LTD

15 Yale Crescent, P.O. Box 668, St.Catharines, Ontario, L2T 3N4.

Research Unit

Admin. Contact: Mr. A.W. Van Eyke, Comptroller, Tel: (416) 688-6611.

Scientific Contact: E.A. Kozicki, Vice president, Engineering and Marketing, Tel: (416) 688-6611.

Personnel: Total is 314 of which 5 are scientists and engineers.

Activities: Research and development on semi-permanent gravity aluminum castings for the O.E.M.'s of the automotive industry.

Current or Potential Work: self or parent.

CAE INDUSTRIES LTD.

Suite 3060, P.O. Box 30 Royal Bank Plaza, Toronto, Ontario, M5J 2J1.

CAE Electronics Ltd. (The R&D group is integrated with the line departments of CAE Electronics Ltd.)

8585 Côte De Liesse Rd, St Laurent, Québec, H4L 4X4.

Contact: Dr. G.M. McKinnon, Manager R&D, Tel: (514) 341-6780.

Personnel: Total is 50 of which 45 are scientists and engineers.

Activities: Research and Development is carried out related to basic company products including flight simulators, nuclear simulators, energy control systems, Magnetic Anomaly Detection equipment and large scale real time computer systems; Particular areas of specialization include real time computer graphics and visual displays, controls and displays, eye tracking and head movements, electro-hydraulic servos and simulation of military equipment.

Facilities: Hydraulics test lab; air combat research simulator; visual perception, eye tracking lab; MAD development facility.

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

CAMBRIAN ENGINEERING GROUP LTD (THE)

2465 Cawthra Road, Suite 112, Mississauga, Ontario, L5A 3P2.

Cambrian Engineering Group Limited (The)

2455 Cawthra Road, Suite 112, Mississauga, Ontario, L5A 3P2.

Contact: P.W. Sleggs, P.Eng., Process Manager, Tel: (416) 272-1400.

Personnel: Total is 10 of which 6 are scientists and engineers.

Activities: Involvement in a variety of in-plant investigations and process development programs in processing of oil seeds to oils and meals. The accent is on innovative ways for upgrading established processes, like degumming, refining, bleaching, deodorization and hydrogenation, to improve yields, lower processing costs, and reduce energy inputs. Preliminary studies are generally carried out on bench scale equipment. In addition, Cambrian has access to pilot plant facilities where major process equipment can be scaled up to meet future plant production. Limited environmental research is carried out to forecast the operation of treatment facilities.

Facilities: GLC; hydrogenator; S.S. deodorizer; UV-Visible spectrophotometer; automatic Karl-Fisher titrator; AOM apparatus.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Research Unit

119-105th St. East, Saskatoon, Saskatchewan, S7N 1Z2.

Contact: A.S. Middleton, P.Eng., Manager, Special Projects, Tel: (306) 374-8242.

(Note: R&D staff drawn from company personnel.)

Activities: Research and development of integrated systems for the application of photovoltaic technology to practical problems encountered in Canada and overseas. Research and development in solar thermal technology. Computer simulation.

Facilities: DEC 100 Computer System.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CANADA CEMENT LAFARGE LTD

6150 Royal Mount, Montréal, Québec, H4P 2R3.

Research and Technical Centre

Contact: Mr. Bernard Lebraus, Director of Technical Research Centre, Tel: (514) 738-1202.

Personnel: Total is 25 of which 11 are scientists and engineers.

Activities: New concrete products and new concreting processes; Special concretes - insulating, high strength, fluidized, increased durability, decorative, fibre-reinforced; Use of waste materials for making concrete and concrete products; Concrete admixtures; Concrete paving. Raw materials and cement manufacturing process, including grinding and pyroprocessing; reactivity, hydration and strength development of cement; optimization of process parameters, including energy and environmental considerations; assessment of waste materials for manufacture.

Facilities: Freeze-thaw chambers; weathering simulation; epoxy resin formulation; concrete testing. Calorimetry; particle size analysis; thermal analysis; cement and concrete testing; microscopy and x-ray; mine tailings test facilities.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CANADA PACKERS INC.

95 St. Clair Ave. West, Toronto, Ontario, M4V 1P2.

Canada Packers Research Centre

2211 St. Clair Ave W., Toronto, Ontario, M6N 1K4.

Admin. Contact: R.B. MacGregor, Research Administrator, Tel: (416) 766-4311.

Scientific Contact: B.J. Schnyder, Research Director, Tel: (416) 761-4046.

Personnel: Total is 83 of which 48 are scientists and engineers.

Activities: Food product & process development (meat, dairy, edible oil, nut and vegetable products); Animal nutrition research; Pharmaceutical (Research organic & biochemical products).

Current or Potential Work: self or parent.

CANADIAN ASTRONAUTICS LIMITED

1050 Morrison Drive, Ottawa, Ontario, K2H 8K7.

Canadian Astronautics Ltd

Contact: A.M. Furlong, General Manager, Tel: (613) 820-8280.

Personnel: Total is 200 of which 160 are scientists and engineers.

Activities: Space/satellite instrument design; EW system design; ASW system design; computer system design; airborne side looking radar design; synthetic aperture radar; earth station design; phased array antennas - UHF antennas; image processing system design.

Facilities: Clean room; tempest (shielded) facility; environmental chambers; RF/microwave test equipment; digital/analogue test equipment; computing test equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CANADIAN CANNERS LIMITED,

44 Hughson Street South, PO Box 540, Hamilton, Ontario, L8N 3K6.

Canadian Canners Limited Research Centre

1101 Walkers Line, Burlington, Ontario, L7N 2G4.

Admin. Contact: C.J. Ross, Director, Technical Services & Regulatory Affairs, Tel: (416) 335-9700.

Scientific Contact: T.G. Stevens, Manager, Analytical Services, Tel: (416) 335-9700.

Personnel: Total is 24 of which 13 are scientists and engineers.

Activities: Food technology: Product development; microbiology; analytical chemistry; environmental - waste disposal. Fields of specialization in all of the above.

Facilities: Atomic absorption; polarograph; chromatographs; fully equipped product development pilot plant; computer system; food texture meters.

Current or Potential Work: self or parent, R&D for government.

Canadian Canners Agricultural Research Laboratory

Anne Street, Dresden, Ontario, N0P 1M0.

Contact: C.J. Ross, Director, Technical Services and Regulatory Affairs, Tel: (416) 335-9700.

Personnel: Total is 7 of which 3 are scientists and engineers.

Activities: Plant breeding; crop horticulture.

Current or Potential Work: self or parent, R&D for government.

CANADIAN FORMATION TESTERS LTD

10342 - 176 Street, Edmonton, Alberta, T5S 1L3.

Research Unit

10342-176 Street, Edmonton, Alberta, T5S 1L3.

Contact: Mr. James Clark, President, Tel: (403) 484-3344.

Personnel: (Note: Several part-time people.)

Activities: Formation "Drill-Stem" Testing. A formation test is a temporary completion of a well and is run for three primary reasons: (1) to obtain a physical sample of the fluids produced from the reservoir (2) to obtain a measured flow rate indication of the productivity of the formation (3) to obtain pressure data for the calculation of reservoir parameter for the recognition of natural or indirect anomalies around the well base. An Anchor device to "hook into" the wall of a drilled well to provide a means to test "Off-Bottom" without the necessity of running drill pipe to bottom for support. Advanced Anchor #3 - Currently being studied by the University of Alberta, Mechanical Engineering Dept. Proposal to be put forth by July 31/84 by this department on means of improving the current activities re: Anchor Tool. Also Walters Gil Tool Machine Ltd will have a prototype of improved Anchor "1 & 2" ready by Aug. 15th for testing.

Current or Potential Work: self or parent.

CANADIAN GAS RESEARCH INSTITUTE

55 Scarsdale Road, Don Mills, Ontario, M3B 2R3.

Research Unit

55 Scarsdale Rd, Don Mills, Ontario, M3B 2R3.

Contact: Dr. Orland Schaus, Director of Research,

Tel: (416) 447-6465.

Personnel: Total is 18 of which 8 are scientists and engineers.

Activities: Natural gas utilization - processes and equipment; natural gas distribution equipment; natural gas combustion.

Facilities: Gas analysis equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CANADIAN GENERAL ELECTRIC COMPANY LTD

25 King St. W. (PO Box 417) Comm Ct N., Toronto, Ontario, M5L 1J2.

Central point of contact: CGE Corporate Technology

107 Park St. North, Peterborough, Ontario, K9J 7B5.

Contact: Mr. Tim Benson, Manager of Engineering

Laboratory, Tel: (705) 748-8486.

Personnel: Total is 300 of which 200 are scientists and engineers.

Activities: CAD/CAM, automatic production systems, remote handling, information systems, microelectronics and power electronics, computer application programming, computer modelling and analysis, control systems for power and industrial systems, static and rotating electrical machinery, bearings, heat transfer, fluid flow, metal casting, joining and finishing, lighting, jet engines, nuclear fuels, environmental and industrial hygiene.

Facilities: Measurements, tests and experiments on: electrical insulation properties; hydraulic tunnel; metal joining; CAD/CAM; industrial and environmental hygiene; control systems; rotating machinery.

Current or Potential Work: self or parent.

CANADIAN INSTITUTE OF METALWORKING

1276 Sandhill Dr, P.O. Box 7317, Ancaster, Ontario, L9G 3N6.

Computer Integrated Manufacturing

1276 Sandhill Dr., P.O. Box 7317, Ancaster, Ontario, L9G 3N6.

Admin. Contact: Mary Ruth Linkert, Manager, Finance & Administration, Tel: (416) 648-5011.

Scientific Contact: Dr. Alan Frosst, President, Tel: (416) 648-5011.

Personnel: Total is 22 of which 22 are scientists and engineers.

Activities: Computer aided design, drafting and generation of numerical control data to manufacture high accuracy aerospace and mould and die components and tooling (CAD/CAM); special purpose software; justification of CAD/CAM equipment; field testing, calibration and machine tool accuracy; CAD/CAM training program for industry.

Facilities: CALMA interactive graphics DDM; MAHO MH-700C CNC Centre; Bostomatic 14-24 Cont. Mach.; AGIE EDM; EX- CELL-O 603; CINCINNATI Hydrotel.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CANADIAN INSTRUMENTATION AND RESEARCH LIMITED

2211 Dunwin Drive, Mississauga, Ontario, L5L 1X1.

Research Unit

Contact: P. Mouroulis, Senior Physicist,

Tel: (416) 828-1456.

Personnel: Total is 11 of which 6 are scientists and engineers.

Activities: All aspects of opto-electronic and optomechanical system development. Research in fiber optic sensors and systems. Development of single mode fiber optic couplers and components including acousto-optic devices.

Facilities: Scanning Fabry-Perot Interferometer; Intel microprocessor development system; monochromator; long length fiber ring resonator spectrometer.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CANADIAN LIQUID AIR LTD

1155 Sherbrooke Street West, Montréal, Québec, H3A 1H8.

Research and Development Laboratory

5035 Roven Street, Montréal, Québec, M1V 1J3.

Contact: R. Blot, R&D Laboratory Manager,

Tel: (514) 255-7741.

Personnel: Total is 17 of which 8 are scientists and engineers.

Activities: Main field of R&D is welding - design and production processes for filler metals: electrodes, Flux cored wires; development of shielding gases for welding processes; development of welding and cutting processes; welding metallurgy. R&D is also carried out in design and production of gas apparatus for welding or other applications.

Facilities: Emission spectrometer.

Current or Potential Work: self or parent, non R&D services for private sector.

Research Dept.

2410 Ville Marie St., Montréal, Québec, H1V 3K5.

Contact: Robert Lee, Director - Research,

Tel: (514) 842-5431.

Personnel: Total is 10 of which 5 are scientists and engineers.

Activities: Enhanced recovery oil; ferrous and non ferrous metallurgy; pulp and paper; wastewater treatment.

Current or Potential Work: non R&D services for private sector.

CANADIAN MARCONI COMPANY (CMC)

2442 Trenton Avenue, Montréal, Québec, H3P 1Y9.

Research Unit

Contact: Janka Dvornik, Manager, Corporate

Communications, Tel: (514) 341-7630.

Personnel: (Note: Not available)

Activities: Product-oriented development work is carried out in the following areas: integrated avionics systems and sub-systems, intelligent digital systems & controls including Microwave Landing System (MLS) airborne receivers and Global Positioning System (GPS) receivers, air search surveillance and navigation radars, military and commercial (HF) communications systems, data communications, microwave components, alphanumeric fibre-optic displays, illuminated panels, precision-machined parts, hybrid microcircuits.

Facilities: CAD/CAM systems; HP640000 systems. These systems are an example of the wide range of equipment used.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

CANADIAN PORCELAIN COMPANY LIMITED

100 Beddoe Drive, Hamilton, Ontario, L8N 3J2.

Product Engineering

Admin. Contact: F.P.A. Odenkirchen, Engineering Manager

Scientific Contact: Mrs. B. Jedrzejowski, Ceramic Engineer

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: R&D of high compression glazes, for high voltage electrical porcelain; R&D of semi-conductive glazes for electrical porcelain; R&D of high strength electrical porcelain by introduction of alumina.

Facilities: Electrical lab kiln; 2 lab dryers; lab batching and mixing equipment; R-Tap testing sieve shaker; viscometers; strength testing equipment; optical pyrometer; PH meter; ultrasonic equipment; microscopes; analytical scales; lab pug mill with vacuum de-airing system.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

CANADIAN REFRACTORIES DRESSER CANADA, INC.

P.O. Box 1750, 4 Place Ville Marie, Montréal, Québec, H3B 3Y4.

Canadian Refractories, Research Laboratories

P. O. Box 160, Grenville, Québec, J0V 1J0.

Contact: J. D. Perry, Manager, Research and Quality

Control, Tel: (819) 242-2721.

Personnel: Total is 11 of which 3 are scientists and engineers.

Activities: Basic refractory development; Small scale studies of chemical reactions involving refractories eg. slag, alkali attack; Physical testing of experimental refractories, strength (hot & cold), thermal shock resistance, refractoriness underload, hydration resistance, creep resistance; Chemical, X-Ray & petrographic analyses.

Facilities: Creep furnace; gas-fired furnaces capable of 1750 degrees C; petrographic microscopes; XRD apparatus; emission spectrograph; compression/flexural testing machine; hydraulic brick press; complete pilot scale crushing, screening and milling facilities for processing refractory ingredients.

Current or Potential Work: self or parent.

CANADIAN SEED COATERS LIMITED

P.O. Box 219, Brampton, Ontario, L6V 2L2.

Canadian Seed Coaters - North Battleford

P.O. Box 1748, North Battleford, Saskatchewan, S9A 3W2.

Admin. Contact: Tony Cabral, General Manager,

Tel: (306) 445-1077.

Scientific Contact: Mark George, Research Supervisor,

Tel: (306) 445-1077.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Development of method and materials for coating seeds. Specializing in: a) coating materials and chemicals for canola seed; b) development of high production equipment for coating canola seeds; c) new applications for seed coating technology. All above research carried out in both field and laboratory.

Facilities: Seed coater and driers.

Current or Potential Work: self or parent.

CANEXEL INC

P.O. Box 1020, Golf Course Road, Gatineau, Québec, J8P 6K2.

Canoxel Inc.

Golf Course Road, Gatineau, Québec, J8P 6K4.

Contact: H.W. Evans, Manager R&D, Tel: (819) 663-5331.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: More efficient manufacture of hardboard products and more efficient use of those products in the field. Areas of specialization: hardboard

manufacture, siding manufacture and installation.
Development of new siding of interior panelling products.

Current or Potential Work: self or parent.

CANVIRO CONSULTANTS LTD

178 Louisa Street, Kitchener, Ontario, N2H 5M5.

Research Unit

Contact: Dr. Earl Shannon, President, Tel: (519) 579-3500.
Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Anaerobic waste treatment (agricultural and industrial); hazardous waste treatment; residue reduction; biological waste treatment; organic analyses; computer assisted instruction; general environmental engineering; industrial waste treatment; resource, recovery, reuse and recycle.

Facilities: 2 Gas Chromatographs; high speed centrifuge; biological treatability units (aerobic and anaerobic); algal assay equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CAPE BRETON DEVELOPMENT CORPORATION

500 Kings Road (P.O. Box 1330), Sydney, Cape Breton, Nova Scotia, B1P 6K3.

Carbogel (Coal Water Slurry) Pilot Plant

Victoria Junction (P.O. Box 2500), Near Sydney, Cape Breton, Nova Scotia, B1P 6K9.

Admin. Contact: L. Adrian White, Director of Coal Technology Developments, Tel: (902) 564-7324.

Scientific Contact: Greg Landry, Pilot Plant Manager, Tel: (902) 564-3851.

Personnel: Total is 13 of which 2 are scientists and engineers.

Activities: 4 tonne per hour pilot plant to grind, beneficiate, dewater and disperse coal to produce a stable slurry that can be stored, pumped and burned like residual fuel oil. Based on Swedish technology. Supplies demonstration quantities for combustion trials.

Facilities: Coulter Counter - (size analysis); Rheomat (viscosity measurement).

Current or Potential Work: self or parent, R&D for government.

CAPROCO CORROSION PREVENTION LTD

5104-82 Ave, Edmonton, Alberta, T6B 0E6.

Caproco Research & Development Department

6120-76 Avenue, Edmonton, Alberta, T6B 0A6.

Admin. Contact: F.W. Hewes, P. Eng., President, Tel: (403) 468-2878.

Scientific Contact: Dr. J.A. Jakobs, P. Eng., Manager, R&D Dept., Tel: (403) 468-2878.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Field laboratory study, testing and evaluation of corrosion preventive methods, and corrosion resistant materials; corrosion mechanism studies for cause and effect; testing and evaluation of impressed current anodes; stray current and interference testing; field and laboratory testing and evaluation of coatings; pilot tests and rate studies to determine optimum inhibition; corrosivity of soil studies, testing and evaluation.

Facilities: Set-up for testing the performance of impressed current cathodic protection anodes; Test loops for evaluation of the corrosivity of fluids and for testing the corrosion resistance of materials.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CARISTRAP INC.

1760, boulevard Fortin, Laval, Québec, H7S 1N8.

Research Unit

1760 Boulevard Fortin, Laval, Québec, H7S 1N8.

Admin. Contact: Larry T. Karass, President,

Tel: (514) 667-4700.

Scientific Contact: Thomas J. Karass, Chairman,

Tel: (514) 667-4700.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Strapping; reinforcing tapes; fasteners; automated packaging systems; synthetic steel.

Facilities: Full test laboratory.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CARTE ELECTRIC LTD

1995 Logan Avenue, Winnipeg, Manitoba, R2R 0H8.

Carte Electric Ltd, Research & Development Dept.

Contact: James G. Cross, Director of R&D,

Tel: (204) 633-7220.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: 1) High voltage insulating materials; 2) power systems equipment (transformers, fusing, oil-filled switchgear); 3) high voltage phenomena; 4) electrical insulating fluids; 5) heat transfer (natural convection and radiation); 6) 3-dimensional magnetic field numerical computation and plotting; 7) applications of power electronics; 8) short circuit effects on power system equipment; 9) strength of materials.

Facilities: 600 KV impulse generator; 100 KV AC 60 Hz supply; partial discharge measuring equipment; 24 channel temperature recorder; infrared temperature sensor; 100 KV DC supply.

Current or Potential Work: self or parent, non R&D services for government, non R&D services for private sector.

CENTRODYNE INC.

3485 Thimens Blvd, Montreal, Quebec, H4R 1V5.

Research Unit

Admin. Contact: Jack Steiner, President,

Tel: (514) 331-8760.

Scientific Contact: Ed Prest, Director of R&D,

Tel: (514) 331-8760.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Digital/computer systems for transportation; developing in-house products using the latest electronic technology to monitor driver/vehicle performance.

Facilities: Schaffner interference generator for automotive electronics.

Current or Potential Work: self or parent.

CHAMPION ROAD MACHINERY LIMITED

Box 10, Maitland Road, Goderich, Ontario, N7A 3Y6.

Champion Road Machinery Limited, Engineering Division

Maitland Road, Goderich, Ontario, N7A 3Y6.

Admin. Contact: W. Hayward, Director of Planning and Special Projects, Tel: (519) 524-2601.

Scientific Contact: Tom Powell, Chief Engineer, Tel: (519) 524-2601.

Personnel: Total is 45 of which 10 are scientists and engineers.

Activities: Construction equipment development; hydraulic system development; powershift transmission development; development of electronic controls for transmissions and hydraulic systems.

Facilities: "Data Myte" duty cycle equipment; "Megaduc" data acquisition; strain gage equipment; IBM computer electronic test equipment; vehicle performance equipment; hydraulic test equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

CHAMPLAIN INDUSTRIES LTD

6535-21 Millcreek Dr., Mississauga, Ontario, L5N 2M2.

Champlain Industries Technical Centre

176 Rue Principale, Stanbridge Station, Québec, J0J 2J0.

Admin. Contact: D. Van Horn, Technical Manager,

Tel: (514) 248-3376.

Scientific Contact: David Thomson, Product Development

Scientist, Tel: (514) 248-3376.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Savoury flavours - development of new flavours based on hydrolysed plant proteins, yeast extracts. Dried food ingredients - spray dried ingredients based on milk, fat, whey, casein. Peptones - enzyme hydrolysed proteins for application in microbiological media and nutritional supplements.

Facilities: Pilot spray dryer; 10 gallon pilot glass lined pressure reactors (2); homogenising pump.

Current or Potential Work: self or parent.

CHEMBIOMED LTD.

W5-56 Chemistry Bldg, Univ of Alta, Edmonton, Alberta, T6G 2G2.

Biotechnology R&D

W5-56 Chemistry Bldg; Univ of Alta, Edmonton, Alberta, T6G 2G2.

Admin. Contact: Dr. H.R. Hutchins, President and Chief Executive Officer, Tel: (403) 432-2053.

Personnel: Total is 13 of which 11 are scientists and engineers.

Activities: Chembimed is in the business of researching, developing and commercializing products for human health care and industrial use by the application of biotechnology - particularly those aspects of biotechnology which relate to carbohydrate chemistry. In this respect, Chembimed is presently involved in the R&D of Monoclonal antibodies to cell surface antigens of carbohydrate nature.

Facilities: Carbohydrate synthesis small pilot plant; hybridoma laboratory; cell culture laboratory; animal (mice) facility.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CHEMCRAFT SADOLIN INC.

155 Rose Glen Road, P.O. Box 458, Port Hope, Ontario, L1A 3Z3.

Research Unit

Admin. Contact: Rein Preik, President,

Tel: (416) 885-6388.

Scientific Contact: Lissi Jeppsem, Technical Director,

Tel: (416) 885-6388.

Personnel: Total is 10 of which 5 are scientists and engineers.

Activities: Research and development of coating materials, especially in regard to: coating of wood like; furniture, panelboard, construction wood. Preservation and recondition of concrete constructions exposed to airborne acid. Preservation of wood-like; construction wood, logs, sawn timber.

Current or Potential Work: self or parent, non R&D services for private sector.

CHIPMAN INC.

400 Jones Road, Stoney Creek, Ontario, L8G 3Z1.

Research Unit

400 Jones Rd, Stoney Creek, Ontario, L8G 3Z1.

Contact: R.A. Costen, Technical Manager,

Tel: (416) 643-4123.

Personnel: Total is 14 of which 11 are scientists and engineers.

Activities: Analytical chemistry - crop protection chemicals; formulation development - crop protection chemicals; occupational health monitoring - crop protection chemicals; evaluation of insecticides, fungicides, herbicides, seed treatments, plant growth regulators, rodenticides.

Facilities: Analytical chemical equipment; Seed counters; Experimental field sprayers.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

CIBA-CEIGY SEEDS

115 John St., Ailsa Craig, Ontario, N0M 1A0.

Research Unit

Admin. Contact: Mr. Byron Beeler, General Mgr; Seeds

Sub-Division, Tel: (519) 293-3211.

Scientific Contact: Dr. Tom Wilson, Director, Research and Development, Tel: (519) 293-3211.

Personnel: Total is 12 of which 4 are scientists and engineers.

Activities: Plant breeding.

Facilities: Growth chambers.

CIL PAINTS INC.

1330 Castlefield Ave, Toronto, Ontario, M6B 4B3.

Paint Research Laboratory

Contact: Dr. Ian H. McEwan, Research Manager,

Tel: (416) 787-2411.

Personnel: Total is 69 of which 30 are scientists and engineers.

Activities: Polymer chemistry, colloid science, color physics; analytical chemistry; coating and resin development; synthesis of intermediates.

Facilities: Instrumental color matching; laser light scattering particle sizing; HPLC.

Current or Potential Work: self or parent.

CIMTECH, DIVISION OF BATA INDUSTRIES LIMITED

400 Sidney St., Trenton, Ontario, K8V 2V2.

Cimtech

Admin. Contact: Mr. Walde Schilke, General Manager,

Tel: (613) 394-4871.

Scientific Contact: Dr. Douglas Strong, Manager, Research and Development, Tel: (613) 394-4871.

Personnel: Total is 30 of which 21 are scientists and engineers.

Activities: Principally development of technology and machinery for shoe manufacturing and related industries. Includes C.A.D. design package for 3-D objects (footwear) with flattening capability. Interface for N.C. mouldmaking, and N.C. cutting (laser, water jet and machine centre) of components. Development of control systems for high accuracy and high speed X-Y tables (water-jet, stitchers) and robotics. Research on light-weight carbon fiber composite structures and low inertia, fast response, zero-back lashdrive systems.

Facilities: Vax 750 computers (2) graphics design program; intel computer with ICE in circuit emulator; laser cutter, water-jet cutters; automatic 3-D digitizer; recording oscilloscopes; control systems test equipment.

Current or Potential Work: self or parent, non R&D services for private sector.

CIP INC.

1155 Metcalfe Street, Montréal, Québec, H3B 2X1.

CIP Research Ltd.

179 Main Street West, Hawkesbury, Ontario, K6A 2H4.

Contact: W.R. Saxton, President.

Personnel: Total is 60 of which 20 are scientists and engineers.

Activities: Research and development relating to the manufacture of newsprint, packaging board, market pulps and tissue products. Specializing in field of mechanical and chemical pulping, bleaching and paper machine diagnostics.

Facilities: 10 tons/day Pulping Pilot Plant.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CIP Packaging Research

15300 Sherbrooke Street East, Montréal, Québec, H1A 3S1.

Admin. Contact: J.W. McEwan, Manager,

Tel: (514) 878-4811.

Scientific Contact: Serge Koutitonsky, Senior Dev.

Chemist, Tel: (514) 642-9243.

Personnel: Total is 11 of which 4 are scientists and engineers.

Activities: Research and development relating to the manufacture of corrugated packaging, multiwall bags and extrusion coating. Specializing in functional surface coating and package development.

Facilities: Extrusion coating pilot plant.

Current or Potential Work: self or parent.

Dominion Cellulose Technical Dept., Facelle

1551 Weston Road, Toronto, Ontario, M6M 4Y4.

Contact: Ivan Pivko, Technical Director,

Tel: (416) 243-3011.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Applied tissue research.

Current or Potential Work: self or parent.

CIRCUL-AIRE INC.

5885 Henri Bourassa West, Montréal, Québec, H4R 1B7.

Circul-Aire Inc., (R&D Department)

Contact: Dr. Bhuvan C. Pant, Vice-President R & D,

Tel: (514) 336-3330.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Development of new matrices and impregnates for the abatement of corrosive, odorous, and toxic gases; research and development in the field of analytical methodologies for corrosive, odorous, and toxic gases; research and development in the field of corrosion monitoring and relative odor response evaluations.

Facilities: Contaminant monitors; Corrosion monitoring equipment set-up; Relative odor response evaluation equipment set-up.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CITY OF CALGARY ENGINEERING DEPT.

P.O. Box 2100, Calgary, Alberta, T2P 2M5.

City of Calgary/Eng Dept/Strs Div/Paving & Sidewalk Section, Materials Research

Contact: Mr. C.E. Rodier, P. Eng., Materials & Research Engineer, Tel: (403) 268-5016.

Personnel: Total is 6 of which 2 are scientists and engineers.

Activities: Additive products for asphalt; additive products for concrete.

Current or Potential Work: self or parent.

Glenmore Waterworks Laboratory

Calgary Waterworks (35), P.O. Box 2100, Calgary, Alberta, T2P 2M5.

Admin. Contact: Dr. R.T. Seidner, Lab Supervisor,

Tel: (403) 243-9808.

Scientific Contact: Dr. E.E. Hargesheimer, Research

Chemist, Tel: (403) 243-0073.

Personnel: Total is 7 of which 3 are scientists and engineers.

Activities: Water treatment methods: ozone as preoxidant and pilot filtration plant. Water quality monitoring and assessment; continuous monitoring methods, biomonitoring, eutrophication studies.

Facilities: Mass spectrometer - data system; gas chromatograph; atomic absorption spectrophotometer; ion chromatograph; fluorescence spectrophotometer.

Current or Potential Work: self or parent.

CLARE BROTHERS

223 King Street, Cambridge, Ontario, N3H 4T5.

Research Unit

Contact: David Godfrey, Exec. Vice-President,

Tel: (519) 653-6245.

Personnel: Total is 8 of which 4 are scientists and engineers.

Activities: R&D related to development of residential/commercial heating/cooling and environmental systems.

Current or Potential Work: self or parent, R&D for government.

COAL MINING RESEARCH CENTRE

P.O. Bag 1400, One Oil Patch Drive, Devon, Alberta, T0C 1E0.

Research Unit

Admin. Contact: Mrs. S. Kennedy, Office Manager,

Tel: (403) 987-8181.

Scientific Contact: R.N. Sanders, Managing Director,

Tel: (403) 987-8195.

Personnel: Total is 15 of which 9 are scientists and engineers.

Activities: The Mining Technology Division carries out research related to coal exploration, surface coal mining methods and economics, reclamation, underground mining methods and economics, strata control, health and safety and underground environmental control. The Coal Preparation Division carries out research related to upgrading and beneficiation of coal by coal drying, dry cleaning, alternative coal washing methods, waste disposal and utilisation, plant control.

Facilities: 4500 kN testing machine; triaxial test apparatus; 1 tonne/hour Roto-Louvre Dryer; Mogenson screen and sizer.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

COMINCO LTD

200 Granville St., Vancouver, B.C., V6C 2R2.

Technical Research Center, Cominco Ltd

Trail, B.C., V1R 4L8.

Contact: C.A. Sutherland, Manager, Technical R&D,

Tel: (604) 364-4426.

Personnel: Total is 47 of which 23 are scientists and engineers.

Activities: Mineral beneficiation - specializing in lead, zinc, and copper; Metallurgical Research - hydrometallurgical (zinc and copper, arsenic); - pyrometallurgical (lead, zinc, silver, arsenic, antimony); general chemical processes; electrolytic research - electrowinning of zinc, lead refining; process control.

Facilities: Research laboratories; pilot plant facilities; special analytic equipment (SEM etc.); process modeling by computer.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Trail Operations Development, Cominco Ltd

Trail, B.C., V1R 4L8.

Contact: C.A. Sutherland, Manager, Technical R&D,
Tel: (604) 364-4426.

Personnel: Total is 48 of which 23 are scientists and engineers.

Activities: Process improvements for zinc and lead production operations; pilot plant operation for process revisions; process improvements for fertilizer production plants; general plant troubleshooting.

Facilities: Testing laboratories and offices.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Electronic Materials Development

Semiconductor Plant #2, Trail, B.C., V1R 4L8.

Admin. Contact: A.G. White, General Manager, Electronic Materials Division, Tel: (604) 364-4758.

Scientific Contact: R.F. Redden, Development Manager,
Tel: (604) 364-4751.

Personnel: Total is 20 of which 11 are scientists and engineers.

Activities: Single crystal LEC GA-AS wafers - undoped and chrome and silicon doped; Single crystal CD-TE wafers - N AND P type; Epitaxial CD-HG-TE layers; Ultra high purity CD, TE, AS, GA, and B2O3; Specialty arsenic products AS2O3 - AS2O5 - metallic MBE slugs; Single crystal GE wafers - poly GE blanks - GE-CL4, GE-O2.

Facilities: Melbourne high pressure crystal growers; semiconductor wafer fabrication; zone refining; semiconductor characterization.

Current or Potential Work: self or parent, R&D for government.

Product Research Centre

2380 Speakman, Sheridan Park, Mississauga, Ontario, L5K 1B4.

Contact: G.P. Lewis, Manager, Product Research,
Tel: (416) 822-2022.

Personnel: Total is 31 of which 14 are scientists and engineers.

Activities: Continuous strip casting and rotary strip expansion technology for production of lead-acid battery grids; Electrochemistry, physical metallurgy and corrosion behaviour of lead-acid battery components, particularly lead-alloy grid materials and active material, as affected by manufacturing process variables and battery cycling regimes; Superplastic zinc alloy thermoforming technology; Superplastic zinc alloys for compression forging applications; Zinc-alkaline batteries; Continuous cast zinc alloy bearing stock; Hot-dip galvanizing technology; Machinability of alloys, especially zinc based alloys; Computer assisted die design for zinc pressure die castings.

Facilities: Computer controlled battery cycling facilities; cominco lead alloy strip caster and expander for battery grid manufacture; metallography lab including SEM and EDX capability; pilot hot-dip galvanizing line; machinability evaluation capability; non-ferrous metal casting facilities; B.E.T. particle size apparatus; broad range of materials

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Cominco Ltd - Calgary Fertilizer Operations

Box 5370, Station A, Calgary, Alberta, T2H 2P4.

Admin. Contact: M.E. Agg, Operating Superintendent,
Tel: (403) 255-8841.

Scientific Contact: B.M. Picone, Process Engineer,
Tel: (403) 255-8843.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: To improve the production of the following products: ammonia, ammonium-nitrate, urea-sulphur.

Current or Potential Work: self or parent.

Research & Technical Development, Sullivan Mine

P.O. Box 2000, Kimberley, B.C., V1A 2G3.

Contact: M.B. Bapty, P.Eng., Superintendent, Technical Development, Tel: (604) 427-2884.

Personnel: Total is 6 of which 6 are scientists and engineers.

Activities: Applied research in mining methods and systems technology, ground control, environmental control, explosives technology, fire resistant fluid hydraulics, sulfide fires, pneumatic backfill stowing, ground support systems, mining machinery and equipment development, remote control systems for vehicles, radio, corrosion control. Represents Cominco on the board of the Mining Industry Research Organization of Canada. Represents Cominco on the Canadian Standards Association Steering Committee on Electrical and Mechanical Mine Safety.

Facilities: Two laboratories: Sullivan mine explosives laboratory: field testing facilities for explosives (used sometimes by CANMET and DND); Technical development research laboratory.

Current or Potential Work: self or parent, non R&D services for government, R&D for private sector, non R&D services for private sector.

Technical Development, Sullivan Concentrator

P.O. Box 2000, Kimberley, B.C., V1A 2G3.

Admin. Contact: J.T. Furey, Development Superintendent,
Tel: (604) 427-4470.

Scientific Contact: J.T. Furey, Development Superintendent,
Tel: (604) 427-4470.

Personnel: Total is 11 of which 4 are scientists and engineers.

Activities: Beneficiation of sulphide, oxide and precious metal ores. Applied research on concentrator operation and control.

Facilities: Mineral processing laboratory; column flotation cell.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Development, Kimberley Fertilizer Operations

P.O. Box 2000, Kimberley, B.C., V1A 2G3.

Admin. Contact: W.L. Davies, Fertilizer Operations Manager, Tel: (604) 427-3993.

Scientific Contact: G.W. Johnson, Senior Development Engineer, Tel: (604) 427-3630.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Plant testing and troubleshooting for phosphate fertilizer production.

Facilities: Testing laboratories.

Current or Potential Work: self or parent.

COMMERCIAL ELECTRONICS LTD

1335 Burrard Street, Vancouver, B.C., V6Z 1Z7.

Research Unit

Admin. Contact: Gwendoline Turpin, Secretary,
Tel: (604) 669-5525.

Scientific Contact: H.H. von Tiesenhausen, President,
Tel: (604) 669-5525.

Personnel: Total is 7 of which 5 are scientists and engineers.

Activities: Audio and multi-media control system involving micro-computer and micro-processor technologies.

Facilities: Various development systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

COMMONWEALTH GEOPHYSICAL DEVELOPMENT CO. LTD

#902, 441-5 Ave S W, Calgary, Alberta, T2P 2V1.

Commonwealth Geophysical Development Co Ltd.

Contact: Dr. Sudhir Jain, President, Tel: (403) 233-0336.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: Geophysical processing and interpretation techniques related especially to oil exploration.

COMMUNICATIONS VIDEOTRON LTEE (LES)

2000 rue Berri, Montréal, Québec, H2L 2V7.

Research Unit

2000, rue Berri, Montréal, Québec, H2L 4V7.

Admin. Contact: André Chagnon, Président,
Tel: (514) 281-8803.

Scientific Contact: Norman Rochon, Directeur du développement, Tel: (514) 281-8803.

Personnel: (Note: Not available.)

Activities: Carries out research and development projects in communications technology. (1) Cable networks engineering: project on electrical, mechanical, and electronic reliability of networks. (2) Cable television and telematics: projects on bidirectional development of networks and hybridization of these networks; software development project; development of software for network operations and for the integration of the information, telecommunications and subscription management systems; computerized subscription management systems; computerization of business communications; integration of information systems and digital cable television systems (Videotron). (3) Project on the development of international markets and new services in cable television and telematics.

Facilities: Sperry 1100/72 computer; PDP 11/70 computer; PDP 11/24,34,44 mini-computers; micro-computers (Apple, IBM, PC and others).

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

COMPAGNIE DE RECHERCHE CONTRACTUELLE CORECO INC. (LA)

547 St-Thomas, Longueuil, Québec, J4H 3A7.

Coreco Inc.

Contact: Daniel Crevier, Président, Tel: (514) 651-2919.

Personnel: Total is 10 of which 6 are scientists and engineers.

Activities: Development of computer interfaces for robotic vision, development and programming of robotic vision systems; and industrial applications of computer vision.

Facilities: Kontron functional analysis system.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

Note: Descriptive text has been translated from French.

COMPUTING DEVICES COMPANY

P.O. Box 8508, Ottawa, Ontario, K1G 3M9.

Research Unit

Admin. Contact: Trevor Jones, Manager, Engineering Administration, Tel: (613) 596-7272.

Scientific Contact: Robert J. Patton, V-President, Research & Engineering, Tel: (613) 596-7267.

Personnel: Total is 250 of which 180 are scientists and engineers.

Activities: Military electronics including thrust measurement, acoustic processing, multi-purpose displays, ballistics computing, security systems and other related applications engineering.

Facilities: CAD capability; CYBER computer centre.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

COMPUTROL SYSTEMS LTD

755 Terminal Ave, Vancouver, B.C., V6A 2M2.

Research Unit

Contact: C.F. Drugge, General Manager,
Tel: (604) 684-5961.

Personnel: Total is 8 of which 6 are scientists and engineers.

Activities: Computerized fuel control; controlled building access products; "smart" chip card technology.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

CON-SERVE GROUP LTD

42 Hawksbury Drive, Willowdale, Ontario, M2K 1M5.

Research Unit

Contact: Thomas Lanczi, President, Tel: (416) 229-2320.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Software research; solar energy; conservation; policy research.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

CONNAUGHT LABORATORIES LIMITED

1755 Steeles Avenue West, Willowdale, Ontario, M2R 3T4.

Connaught Research Institute

Admin. Contact: Dr. D.A.J. Ives, Assistant Director, Resources Management, Tel: (416) 667-2664.

Scientific Contact: Dr. K.J. Dorrington, Director and Vice-President, Research and Technology,
Tel: (416) 667-2826.

Personnel: Total is 100 of which 50 are scientists and engineers.

Activities: R&D in the field of health care: viral vaccines research; bacterial vaccine research; research on immunodiagnostics and hybridoma; research on microencapsulation of living cells from treatment of endocrine disorders - e.g. diabetes; research on the use of genetic engineering for producing health care products - e.g. vaccines; research on wildlife rabies.

Current or Potential Work: self or parent.

CONSERVER GROUP INC. (THE)

356 Hargrave St., Winnipeg, Manitoba, R3B 2J9.

Research Unit

356 Hargrave St., Winnipeg, Manitoba, R2B 2J9.

Contact: David Waldman, P. Eng., President,
Tel: (204) 956-2129.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: Heat recovery - from commercial laundry dryer exhaust air for Energy, Mines and Resources (Canada), - from hospital waste incineration for Department of Health and Welfare, Canada. Energy conservation - thermal stratification of air in buildings for Energy, Mines and Resources (Canada), - control of commercial cooking exhaust and replacement make-up air for Agriculture Canada. Solar - development of an improved on-off type differential analog solar controller and a controller valve package for National Research Council, - design and development of a proportional

differential solar controller for National Research Council.

Current or Potential Work: R&D for government, non R&D services for government.

CONSOLIDATED-BATHURST INC.

800, boul. Dorchester ouest, Montréal, Québec, H3B 1Y9.

Consolidated-Bathurst Inc., Centre de recherches

255, 1ère Rue, Grand'Mère, Québec, G9T 5L2.

Admin. Contact: André Gélinas, Supervisor,

Tel: (819) 538-3341.

Scientific Contact: Jean-Guy Racine, Technical Director,

Tel: (819) 538-3341.

Personnel: Total is 36 of which 8 are scientists and engineers.

Activities: Research in wood pulp and paper, instruments and equipment; physical and chemical analyses of wood pulp, paper and waste or contaminating products.

Note: Descriptive text has been translated from French.

CONSULTRONICS LTD

163 Drumlin Circle, Concord, Ontario, L4K 2T9.

Consultronics R&D Dept.

Contact: Choon Yeung, Vice-President,

Tel: (416) 738-3741.

Personnel: Total is 7 of which 5 are scientists and engineers.

Activities: Development of electronic circuits applied to test and measurement functions in telecommunications, power systems and telemetry. Development of software algorithms for use in the control and measurement functions of measuring and monitoring equipment.

Facilities: Telephone channel simulator; power line disturbance simulator; signal generators; PCM Pattern generator; software development systems.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

CONTROL DATA CANADA LIMITED

1855 Minnesota Court, Mississauga, Ontario, L5N 1K7.

Computer Development Division

Admin. Contact: Linda Richardson, Administration

Manager, Tel: (416) 826-8640.

Scientific Contact: Terry R. Kirsch, General Manager,

Tel: (416) 826-8640.

Personnel: Total is 200 of which 160 are scientists and engineers.

Activities: Mainframe computer hardware and software development; minicomputer hardware and software development; applications software development; performance analysis software development.

Facilities: CAD capability; multi-development computers.

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

Computing Devices Company

P.O. Box 8508, Ottawa, Ontario, K1G 3M9.

Admin. Contact: Trevor Jones, Administration Manager,

Tel: (613) 596-7272.

Scientific Contact: Bob Patton, Vice-President Research

and Engineering, Tel: (613) 596-7267.

Personnel: Total is 250 of which 180 are scientists and engineers.

Activities: Military electronics including thrust measurement, acoustic processing, multi-purpose displays, ballistics computing, security systems and other related applications engineering.

Facilities: CAD capability; CYBER computer centre.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

COUNCIL OF FOREST INDUSTRIES OF B.C.

1500 - 1055 West Hastings Street, Vancouver, B.C., V6E 2H1.

COFI R&D Laboratory

735 West 15th Street, North Vancouver, B.C., V7M 1T2.

Contact: C. Sueda, Manager, Tel: (604) 985-4191.

Personnel: Total is 7 of which 3 are scientists and engineers.

Activities: Strength investigations of plywood and plywood-lumber components.

Facilities: 260 kN universal testing machine; 7.0 kNm panel flexure testing machine.

Current or Potential Work: self or parent, R&D for government.

COURTAULDS (CANADA) INC.

1150 Montreal Road, Cornwall, Ontario, K6H 5S2.

Process Development Department

1150 Montreal Rd., Cornwall, Ontario, K6H 5S2.

Contact: A.D. Martin, Technical and Process Development

Manager, Tel: (613) 933-1180.

Personnel: Total is 11 of which 4 are scientists and engineers.

Activities: Development of improved operating techniques and procedures to improve quality and reduce cost in the manufacture of rayon staple fibres. Development of new fibre types. Evaluation and development of energy reduction schemes.

Facilities: Laboratory viscose-making equipment; 8-25 k particle counter.

Current or Potential Work: self or parent.

CRONE GEOPHYSICS LIMITED

3607 Wolfedale Road, Mississauga, Ontario, L5C 1V8.

Crone Geophysics Limited - Research

Admin. Contact: J. Duncan Crone, President,

Tel: (416) 270-0096.

Scientific Contact: Heinz Grunenberg, Research Engineer,

Tel: (416) 270-0096.

Personnel: Total is 5 of which 5 are scientists and engineers.

Activities: Geophysical methods and instruments. Pulse electromagnetics.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CRYOVAC DIV W. R. GRACE & CO CDA LTD

2365 Dixie Road N., Mississauga, Ontario, L4Y 2A2.

Cryovac Canada

2365 Dixie Road, Mississauga, Ontario, L4Y 2A2.

Contact: R.A. Bolton, Technical Director,

Tel: (416) 273-5656.

Personnel: Total is 15 of which 9 are scientists and engineers.

Activities: Perishable food packaging systems based on plastic flexible films.

Facilities: F.T.I.R.; OXTRAN and other permeability.

Current or Potential Work: self or parent.

CTF SYSTEMS INC.

15-1750 McLean Ave., Port Coquitlam, B.C., V3C 1M9.

Research Unit

15-1750 McLean Ave, Port Coquitlam, B.C., V3C 1M9.

Admin. Contact: Dr M.B. Burbank, President,

Tel: (604) 941-8561.

Scientific Contact: Dr. J. Urba, Vice-President,

Tel: (604) 941-8561.

Personnel: Total is 22 of which 10 are scientists and engineers.

Activities: Cryogenic electronics; superconducting magnetometer and gradiometer instrumentation;

Biomagnetic instrumentation; superconducting magnet development (re MAGLEV applications); ultrasonic transducer development; ultrasonic non-destructive instrumentation; micro-processor applications; data processing.

Facilities: Low magnetic field test site; liquid helium storage and handling facilities; RF shield room; PDP-11/34 computer.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

CULINAR INC.

C.P. 2000, rue Notre-Dame, Ste-Marie de Beauce, Québec, G0S 2Y0.

Division de la pâtisserie et confiserie

Contact: Marius L. Paquin, Directeur de R-D,
Tel: (418) 387-5776.

Personnel: Total is 55 of which 25 are scientists and engineers.

Activities: Mechanical engineering service: development and manufacture of 75% of our production equipment. Specifications and procedures service: research and development of new products; research and testing of the efficiency of ingredients and raw materials; all specifications. Packing service: research and testing of packing materials, packing systems and so on. Laboratories: microbiological and physicochemical analyses, and research on shelf life, irradiation, sugars, fats and so on.

Facilities: Laboratory: analysis equipment; instruments for the assembly and inspection of electronic equipment; ovens; mixers; and so on.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

CYBERNEX LIMITED

1257 Algoma Road, Ottawa, Ontario, K1B 3W7.

Cybernex- Engineering Division

Admin. Contact: Dave Londry, Chief Executive Officer,
Tel: (613) 741-1540.

Scientific Contact: Jim Gadzala, Director of Engineering,
Tel: (613) 741-1540.

Personnel: Total is 27 of which 6 are scientists and engineers.

Activities: Video display product development; microcomputer video controller development; high resolution colour graphics video controller development; communications software development; microprocessor operating system development; compiler and interpreter development.

Facilities: Computer aided design systems (2); microprocessor development systems (12); RF Spectrum Analyser.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

D.A. STUART INC.

43 Upton Road, Scarborough, Ontario, M1K 5C3.

D.A. Stuart Inc., Development and Technical Service Laboratory

59E Howden Road, Scarborough, Ontario, M1R 3C7.

Contact: Wolfgang Pfuhl, Laboratory Manager,
Tel: (416) 751-6615.

Personnel: Total is 8 of which 7 are scientists and engineers.

Activities: Development of metalworking fluids (oil based products, conventional emulsions, semi-synthetics and synthetic cutting, grinding, rolling, drawing and other lubricating fluids) with emphasis on the development of water-reducible metalworking fluids having improved rust inhibition and antimicrobial stability.

Facilities: HPLC; IR spectrophotometer; GC; Coulter counter; Vickers 104-C vane pump.

Current or Potential Work: self or parent, non R&D services for private sector.

D.G. HENDERSON & ASSOCIATES LTD

2081 Oxford St. E., London, Ontario, N5V 2Z7.

D.G. Henderson & Associates Ltd.

2081 Oxford Street E, London, Ontario, N5V 2Z7.

Contact: D.G. Henderson, President, Tel: (519) 451-9920.

Personnel: Total is 8 of which 4 are scientists and engineers.

Activities: Custom electronic control equipment; micro computers and prototyping; programming and assembly.

Current or Potential Work: non R&D services for government, R&D for private sector, non R&D services for private sector.

DAF INDAL LTD

3570 Hawkestone Road, Mississauga, Ontario, L5C 2V8.

Research Unit

3570 Hawkestone Rd, Mississauga, Ontario, L5C 2V8.

Contact: Mr. Mario Pesando, Senior Technical Consultant,
Tel: (416) 275-5300.

Personnel: Total is 10 of which 8 are scientists and engineers.

Activities: Shipboard helicopter support systems; Wind turbine power output and structural performance, measurement, analysis and interpretation; Vertical axis wind turbine aerodynamics and structural dynamics; Microprocessor control systems development; Wind turbine/diesel hybrid systems design, development, testing and monitoring.

Current or Potential Work: self or parent, R&D for government.

DANIELS ELECTRONIC LTD

225 St Lawrence St., Victoria, B.C., V8V 1Y2.

Engineering Division, Daniels Electronics Ltd

225 St. Lawrence St., Victoria, B.C., V8V 1Y2.

Admin. Contact: R.J. Daniels, Vice-President Engineering,
Tel: (604) 382-8268.

Scientific Contact: R. Small, Manager Engineering,
Tel: (604) 382-8268.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Development synthesized H.F. S.S.B. communication equipment and associated equipment; development microprocessor controlled VHF/UHF repeaters.

Facilities: Telecommunications test equipment; environmental test chambers.

Current or Potential Work: self or parent.

DATA KINETICS LTD

97 Norman Street, Ottawa, Ontario, K1S 3K5.

Research Unit

Admin. Contact: Gregory Kells, President,
Tel: (613) 238-6709.

Scientific Contact: William Olders, Vice-President,
Tel: (613) 238-6709.

Personnel: Total is 25 of which 22 are scientists and engineers.

Activities: Computer software - mainframe and micro; computer assisted instruction/computer based training; communications software; design and implementation methodology for computer software; artificial intelligence; ergonomics; training programs for computer software.

Facilities: Micro-computers; mainframe computer facility; software tools.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

DATALINE INC.

175 Bedford Road, Toronto, Ontario, M5R 2L2.

Software Research

Admin. Contact: J.C. Paradi, President,
Tel: (416) 964-9515.

Personnel: Total is 10 of which 8 are scientists and engineers.

Activities: Operating systems and language support software for mainframe and mini-computer applications; communications network software; communications system and process control design; computer applications to database and communications requirements.

Facilities: Computers: VAX750, PDP11/23; IBM System 38.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

DATEM LTD.

148 Colonnade Road, Nepean, Ontario, K2E 7J5.

Research Unit

Admin. Contact: Sandra Budge, Administrative Assistant,
Tel: (613) 225-5919.

Scientific Contact: William P. Thomas, President,
Tel: (613) 225-5919.

Personnel: Total is 7 of which 5 are scientists and engineers.

Activities: Research, design and development of microprocessor based electronic systems, - application of the highly integrated microprocessor technology constitutes DATEM's principal and most rapidly developing area of expertise. Major fields of R&D include: adaptive data acquisition systems, hydrometric and hydrographic data acquisition systems, moving boat method discharge measurement systems, intelligent data acquisition operating systems and high resolution intelligent colour graphics development systems.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

DAVIS ENGINEERING LTD. (CONSULTING ENGINEERS)

1481 Cyrville Road, Gloucester, Ontario, K1B 4Y5.

Research Unit

Admin. Contact: Mr. Pat Smithe, Project Administrator,
Tel: (613) 748-5500.

Scientific Contact: Mr. W. Roland Davis, President,
Tel: (613) 748-5500.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Mechanical design; aerothermodynamic; electronics; vehicle engineering; marine; repair and overhaul facilities; fabrication facilities; computer modelling.

Facilities: Hot gas wind tunnel; flow visualization centrifugal pump; tank/car - small scale test tank for burning tank/car studies.

Current or Potential Work: R&D for government.

DBM INDUSTRIES LIMITED

10340 Côte de Liesse Road, Lachine, Québec, H8T 1A3.

DBM Research

Admin. Contact: Andre Gagne, Controller,
Tel: (514) 636-4723.

Scientific Contact: Ray Pike, Vice-President, R&D,
Tel: (514) 636-4723.

Personnel: Total is 25 of which 5 are scientists and engineers.

Activities: Machinery (die-casting).

Current or Potential Work: self or parent.

DE HAVILLAND AIRCRAFT CDA LTD, (THE)

Garratt Blvd., Downsview, Ontario, M3K 1Y5.

De Havilland Aircraft of Canada, Limited

Admin. Contact: R.G. Batch, Director, Development Engineering, Tel: (416) 633-7310.

Scientific Contact: B. Eggleston, Manager, Advanced Design, Tel: (416) 633-7310.

Personnel: Total is 5 of which 5 are scientists and engineers.

Activities: Energy Efficient STOL Transport Aircraft including: design and test of new airfoils and high lift systems; wind tunnel tests of complete aircraft models; design and test of new propellers; investigations of powerplant installation effects; development of new methods of aerodynamic analysis; design studies of future STOL transport aircraft.

Facilities: Electric motors for propeller drives; air motors for propeller drives; sundry propellers.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Augmentor Research and Technology Group, de Havilland Aircraft of Canada, Limited

Admin. Contact: J.A. Conway, Manager of Engineering and Administration, Tel: (416) 633-7310.

Scientific Contact: D.C. Whitley, Manager of Advanced Research and Technology, Tel: (416) 633-7310.

Personnel: Total is 17 of which 14 are scientists and engineers.

Activities: Aerodynamics R&D of powered-lift aircraft for STOL and VTOL including (A) aircraft design studies; performance estimates; propulsion systems studies. (B) experimental aerodynamics; wind tunnel model design (especially powered and large-scale models); low speed and transonic wind tunnel testing of two- and three-dimensional models; laboratory development of advanced thrust augmentor (ejectors) for STOL and VTOL aircraft designs. (C) theoretical aerodynamics; design of multi-foil, transonic airfoils for augmentor-wing concept aircraft; three-dimensional wing design and analysis.

Facilities: Dedicated air compressor plant for blow-down test system, with thrust and mass flow measurement devices; computer-based, data acquisition system; 18" square wind tunnel.

Current or Potential Work: R&D for government.

DEARBORN CHEMICAL COMPANY LIMITED

P.O. Box 3060, Station A, Mississauga, Ontario, L5A 3T5.

Dearborn Research Group

3451 Erindale Station Road, Mississauga, Ontario, L5C 2S9.

Admin. Contact: Igor Marvan, Manager,
Tel: (416) 828-9111.

Scientific Contact: Dr. John Waller, Research Director,
Tel: (416) 279-2222.

Personnel: Total is 19 of which 8 are scientists and engineers.

Activities: Development of advanced approaches to corrosion and scale control in industrial waste systems.

Facilities: Custom designed pilot scale equipment to simulate waste treatment and industrial waste systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Dearborn Environmental Consulting Services

3451 Erindale Station Road, Mississauga, Ontario, L5C 2S9.

Contact: Igor Marvan, Manager, Tel: (416) 828-9111.

Personnel: Total is 12 of which 8 are scientists and engineers.

Activities: Development of advanced waste treatment methods; development of new physical/chemical and biological processes to treat complex industrial wastes; conversion of biomass to liquid fuels.

Facilities: Custom designed pilot scale equipment to simulate waste treatment and industrial waste systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

DEB SWARFEGA INC.

P.O. Box 730, Waterford, Ontario, N0E 1Y0.

Research Unit

Admin. Contact: N. Williamson, V-President, Marketing,
Tel: (519) 443-8697.

Scientific Contact: M. Hough, Chief Chemist,
Tel: (519) 443-8697.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Development of formulations in the skin care and surface cleaning field and testing of the same; container development; development of test methods for use in the product development and evaluation process; research into skin chemistry.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

DEES COMMUNICATIONS ENGINEERING LTD

6475 C 64th Street, R.R.#5, Delta, B.C., V4K 4E2.

Research Unit

6475C 64th Street, R.R.#5, Delta, B.C., V4K 4E2.

Contact: D.S. Simkins, P. Eng., President,
Tel: (604) 946-8433.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: The unit serves two market sectors, the telephone industry and industrial controls. In the telephone sector, the activities relate to central office, plant equipment and the products are based on identified operating problems some of which are new due to deregulation. e.g. C.O. The development of ANI markers (Automatic Number Indication) on 2 party lines whereby the line is marked and not instruments on the line, the selector on the line and not the instrument on multiple party selective frequency ringing with ring isolation when the line is seized. PLANT EQUIPMENT. Power failures trunk bypass systems for PBX applications. Automatic Ground Start systems for PBX and Key systems. Specialized electronic ringers for use on OEM basis with manufacturers of PBX and Key systems. CONSUMER ACTIVITIES. Full range of electronic ringers, consumer installable as an interface between a plug in telephone and wall jack providing a variety of tones. All of this family are based on meeting FCC, CS03, EIA specifications and all relate to advanced use of piezo ceramic transducers. TEST EQUIPMENT. Due to deregulation, the need has arisen for field test equipment both in phone mart stores and in refurbishing of operations to determine the speech path, the dial tone, the ringing and the cord continuity and the signalling digits, both pulse and tone. INDUSTRIAL SECTOR. Development of micro-processor based controlled equipment using sensors to control the servo mechanism which determines, for example, the delivery of salt or sand from highway trucks. Other applications of the same basic theme approach dispense liquids from a bar behind trucks, including fertilizer etc.

Facilities: Multiple digital ringing frequency generator.

Current or Potential Work: self or parent.

DEGREMONT INFILCO LTD

3300 Côte Vertu, Montréal, Québec, H4R 2B7.

Research Unit

Admin. Contact: H. Mitchell, V-président, Marketing,
Tel: (514) 337-2010.

Scientific Contact: R. Cyr, V-président, Recherche et Développement, Tel: (514) 337-2010.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Treatment of municipal and industrial water and waste water.

Facilities: Pilot plants - filtration, ozonization, coalescing, flotation, and sedimentation.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

DELTA ENGINEERING LTD

505 Consumers Rd, Suite 905, Willowdale, Ontario, M2J 4V8.

Delta Engineering Ltd/Ltee

Admin. Contact: Heather Kirton, Secretary,
Tel: (416) 494-0606.

Scientific Contact: George T. Halmos, President,
Tel: (416) 494-0606.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Applied R&D: formability of metals; roll forming, brake forming, press forming, bending, curving and other forming operations and industrial applications; steel, aluminum, zirconium, titanium and other metals; product development; manufacturing technology R&D for metal products.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

DENOVAN, LTD

P.O. Box 1420, Brantford, Ontario, N3T 5T6.

Research Unit

Contact: John Denovan, President, Tel: (519) 753-2433.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: Machine design of capital goods for process industries. Small computer hardware.

Current or Potential Work: self or parent, R&D for private sector.

DESOTO COATINGS LIMITED

895 Rangeview Road, Mississauga, Ontario, L5E 3E7.

Coatings R&D Laboratory

895 Rangeview Rd, Mississauga, Ontario, L5E 3E7.

Contact: G. Parsons, Technical Director,
Tel: (416) 274-9500.

Personnel: Total is 13 of which 10 are scientists and engineers.

Activities: Lab is involved in research and development of protective and decorative coatings for specialized end uses. Research involves resin development, raw material evaluation, formula development to meet specific performance requirements, formula optimization for cost, manufacturing efficiency, etc. Specialization: Stains and clears for exterior wood substrates, architectural consumer coatings, aerospace coatings, rigid container coatings, agricultural Eq. coatings, coil coatings, electrodeposition coatings, transformer and transportation coatings.

Facilities: Accelerated weathering apparatus; color spectrophotometer; IR and gas chromatograph; application equipment; micro-computers; equipment to

test physical, chemical and corrosion resistance properties, etc.
Current or Potential Work: self or parent.

DET NORSKE VERITAS (CANADA) LTD

#1110, 10201 Southport Rd S.W., Calgary, Alberta, T2W 4X9.

Det norske Veritas (Canada) Ltd.

Admin. Contact: Jan-Erik Hagen, President,
Tel: (403) 253-3422.

Scientific Contact: Ian Jordaan, Ph.D., Manager, R&D,
Tel: (403) 253-3422.

Personnel: Total is 8 of which 7 are scientists and engineers.

Activities: Cold climate technology, general; ice mechanics; material technology related to Arctic use of steel and concrete; ice-structures interaction; risk/reliability related to frontier resources development; naval architecture and marine engineering; offshore engineering.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

DIAGNOSTIC CHEMICALS LIMITED

4 Newland Crescent, Charlottetown, P.E.I., C1A 4H5.

Chemical R&D

23 First St., West Royalty Ind. Park, Charlottetown, P.E.I., C1E 1B0.

Contact: Gary Reid, Director R&D, Tel: (902) 566-1396.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Synthetic organic chemistry.

Current or Potential Work: R&D for government, R&D for private sector.

Diagnostic R&D

16 First St., Charlottetown, P.E.I., C1E 1B0.

Contact: Dr. Julian Gaudin, Director R&D,
Tel: (902) 566-1396.

Personnel: Total is 14 of which 5 are scientists and engineers.

Activities: Diagnostic procedures for various components in blood - new and improved procedures; isolation of enzymes.

Current or Potential Work: R&D for government, R&D for private sector.

DIFFRACTO LIMITED

6360 Hawthorne Drive, Windsor, Ontario, N8T 1J9.

Research Unit

Admin. Contact: J.J. Toews, Vice-President, Finance,
Tel: (519) 945-6373.

Scientific Contact: O. Hageniers, Vice-President, Eng. & Research, Tel: (519) 945-6373.

Personnel: Total is 30 of which 18 are scientists and engineers.

Activities: Electro-optical sensors for measurement and inspection; vision sensors for robot guidance; Servo and hydraulic control systems.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

DILOR INDUSTRIES LTD

P.O. Box 2169, 37749 Second Avenue, Squamish, B.C., V0N 3G0.

Dilor Industries Ltd - R&D Division

Contact: John Jacobson, Vice-President, Engineering,
Tel: (604) 892-9301.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Power control using both low frequency and high frequency techniques, with applications from 100 watts to 12,000 watts. High channel count multivariable real time computer and microprocessor control systems, including state variable machines and software based systems development.

Facilities: Very large incandescent load array; high interrupt capacity power feed.

Current or Potential Work: self or parent.

DIPIX SYSTEMS LIMITED

120 Colonnade Road, Ottawa, Ontario, K2E 7J5.

Research Unit

Admin. Contact: Glyn F. Jones, Vice-President, Business Development, Tel: (613) 224-5175.

Scientific Contact: Stephen Gourley, Vice-President, Technical, Tel: (613) 224-5175.

Personnel: Total is 50 of which 40 are scientists and engineers.

Activities: Image analysis techniques; image display and processing system; software for applications of image analysis to: remote sensing, medical imaging, graphics arts, forensic science, seismic processing, visual inspection robotics etc.

Facilities: VAX computer; Image Analysis Systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

DIVERSEY-WYANDOTTE INC

2645 Royal Windsor Drive, Mississauga, Ontario, L5J 1L1.

Diversey Wyandotte Inc, Technical Centre

Admin. Contact: K.G. Hagens, Technical Director,
Tel: (416) 822-3511.

Scientific Contact: D.R. Cane, Technical Director,
Tel: (416) 822-3511.

Personnel: Total is 28 of which 25 are scientists and engineers.

Activities: Surface chemistry; detergents; sanitizers; lubricants; coatings.

Current or Potential Work: self or parent, R&D for government.

DOCUMENTED CIRCUITS INC.

P.O. Box 8, Station A, Kingston, Ontario, K7M 6P9.

Research Unit

Admin. Contact: Don C. Case, President,
Tel: (613) 549-5522.

Scientific Contact: Romulo Severino, V-President of Engineering, Tel: (613) 549-5522.

Personnel: Total is 44 of which 40 are scientists and engineers.

Activities: Design and implementation of CAD/CAM system for use in the production of printed circuit boards.

Facilities: Graphics terminals; VAX computer systems; Ethernet system linking the above.

Current or Potential Work: self or parent.

DOFASCO INC

1330 Burlington St. East, Hamilton, Ontario, L8N 3J5.

Research Dept.

1390 Burlington St. East, Hamilton, Ontario, L8N 3J5.

Contact: N.G. Thomas, Research Director,
Tel: (416) 544-3761.

Personnel: Total is 62 of which 27 are scientists and engineers.

Activities: Raw materials control - coal, ore, fluxes; ironmaking in blast furnace; steelmaking; hot-rolling; cold rolling; coating; corrosion; applications for flat rolled steel products.

Facilities: Micro-Probe analyser; X-Ray fluorescence and spectro analysis; Quantimet; hot model BOF.
Current or Potential Work: self or parent, R&D for government.

DOMGLAS INC.

2070 Hadwen Road, Mississauga, Ontario, L5K 2C9.

Domglas Research

2070 Hadwen Rd., Mississauga, Ontario, L5K 2C9.

Admin. Contact: Mr. H. Shotton, Vice-President,
Tel: (416) 823-3860.

Scientific Contact: Dr. Leon Levene, Manager Research,
Tel: (416) 823-3860.

Personnel: Total is 80 of which 30 are scientists and engineers.

Activities: Improve strength of glass; glass containers coatings, develop new and/or improve on old; develop new equipment for applying coatings on glass containers; fundamental understanding of reaction of coatings with glass surface; develop techniques for improving farming machine operations.

Current or Potential Work: self or parent.

DOMTAR INC.

P.O. Box 7210, Montréal, Québec, H3C 3M1.

Domtar Research

P.O. Box 300, Senneville, Québec, H9X 3L7.

Admin. Contact: E.J. Tarlton, Director; Technical Servs & Admin., Tel: (514) 457-6810.

Scientific Contact: Dr. S.S. Danyluk, Vice-President, Res & Env Tech., Tel: (514) 848-5991.

Personnel: Total is 105 of which 45 are scientists and engineers.

Activities: Pulp and paper research: chemical and mechanical pulping; chemical bleaching; recovery of pulping chemicals; fibre characterization; paper machine runnability and paper uniformity; paper coating and filler developments; energy reduction; environmental impact studies on aqueous effluents and atmospheric emissions. Chemicals and construction materials research: wood preservatives; salt research; organic chemicals; roofing systems; particleboard and resin impregnated paper laminates; gypsum technology.

Facilities: Pilot plant facilities for wood preparation, chemical and mechanical pulping, bleaching, fibre cleaning; high speed pilot paper coater; printing facilities to evaluate paper printing characteristics; wood preserving pilot plant for pressure impregnation of wood with chemicals; acoustic laboratory for sound transmission tests on wall

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

DORSE INDUSTRIAL CHEMICALS LTD.

2725 Ford Blvd., Châteauguay, Québec, J6J 4Z2.

Research Unit

Admin. Contact: Ted H. Flaherty, President,
Tel: (514) 691-9500.

Scientific Contact: Mohan A. Rao, Manager, Tech. Oper.,
Tel: (514) 691-9500.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Colloidal chemistry; dispersion technology; development of specialty chemicals mainly for the use in pulp and paper industry.

Facilities: Lab is equipped with infra-red spectroscopy; microscope and other regular lab equipment.

Current or Potential Work: self or parent.

DOW CHEMICAL CANADA, INC.

Modeland Rd, Sarnia, Ontario, N7T 7K7.

Modeland Centre R&D

Admin. Contact: L.G. Rey, Administrative Services Manager, Tel: (519) 339-3618.

Scientific Contact: M.J. Baldwin, Research Director,
Tel: (519) 339-3603.

Personnel: Total is 101 of which 93 are scientists and engineers.

Activities: Development of new and improved plastics and chemicals. Development of new applications for them and for existing products. Specializing in plastic foam insulation, cleaning and degreasing solvents, paper and textile coating latexes, herbicides, animal health products, moulding resins, plastic film, structural resins, epoxy resins, polyurethane chemicals.

Facilities: Injection and blow moulders; film extrusion line; polyurethane foam processing; engine coolant testing rigs; insulation testing; carpet coater.

Current or Potential Work: self or parent.

Sarnia Division R&D

Vidal St. S., Sarnia, Ontario, N7T 7M1.

Admin. Contact: L.G. Rey, Administrative Services Manager, Tel: (519) 339-3618.

Scientific Contact: H.W. Quinn, Research Manager,
Tel: (519) 339-3072.

Personnel: Total is 48 of which 46 are scientists and engineers.

Activities: Processing technology for improving the quality, yield, and economics of company products. Operation of pilot plants to evaluate and scale up processes.

Facilities: Full range of analytical equipment; electron microscope; process analyzer.

Current or Potential Work: self or parent.

Western Canada Division R&D

Hwy 15, Fort Saskatchewan, Alberta, T8L 2P4.

Admin. Contact: L.G. Rey, Administrative Services Manager, Tel: (519) 339-3618.

Scientific Contact: A. Knight, Research Manager,
Tel: (403) 998-8282.

Personnel: Total is 23 of which 19 are scientists and engineers.

Activities: Processing technology for improving the quality, yield, and economics of company products. Operation of pilot plants to evaluate and scale up processes.

Facilities: GC mass spectrometer; Emission spectrometer; Electrolysis cell test skid; Ethylene oxide show tube.

Current or Potential Work: self or parent.

DRILL SYSTEMS - DIVISION OF DUALCO MFG LTD

111-58th Ave S.W., Calgary, Alberta, T2H 0A3.

Multi-Purpose Drill Rig

111-58 Ave S.W., Calgary, Alberta, T2H 0A3.

Admin. Contact: Bruce Sutherland, General Manager,
Tel: (403) 253-7451.

Scientific Contact: Floyd Becker, Vice-President, R&D,
Tel: (403) 253-7451.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Reverse circulation drilling; mineral exploration drill rigs.

Current or Potential Work: non R&D services for private sector.

DSMA ATCON LTD

4195 Dundas St. W., Toronto, Ontario, M8X 1Y4.

Research Unit

Admin. Contact: J.C. Lehman, Contracts Manager,
Tel: (416) 239-3011.

Scientific Contact: L.C. Secord, President,
Tel: (416) 239-3011.

Personnel: Total is 50 of which 20 are scientists and engineers.

Activities: Industrial processes; special ventilation; model testing; pilot plants; transportation equipment; nuclear; environmental; instrumentation; aerospace vehicles; energy storage systems; alternate energy; remote handling equipment; dual fuel engines; air quality; microgravity research; robotics.

Facilities: Electronics laboratory; machine shop; photographic darkroom; metrology room.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

DU PONT CANADA INC.

P O Box 2200-Streetsville Post Stn, Mississauga, Ontario, L5M 2H3.

Research Division

P.O. Box 5000, Front Rd, Kingston, Ontario, K7L 5A5.

Admin. Contact: G.B. Dyer, Manager, Research Division,
Tel: (613) 544-6400.

Scientific Contact: D.G. Robinson, Manager, Polymer Technology, Tel: (613) 544-6400.

Personnel: Total is 151 of which 63 are scientists and engineers.

Activities: Chemicals, fibres, plastic research in processes and products.

Current or Potential Work: self or parent.

DUNLOP LIMITED

Dunlop House, Ryder Street, London SW1Y 6PX, ,

Dunlop Research Centre

Sheridan Park Research Community, Mississauga, Ontario, L5K 1Z8.

Admin. Contact: Mrs. E.V. Brown, Administrative Executive, Tel: (416) 822-4711.

Scientific Contact: R.F. Bauer, Manager, Research Projects, Tel: (416) 822-4711.

Personnel: Total is 21 of which 9 are scientists and engineers.

Activities: Product and process developments, testing, analyzing of elastomeric products; research and development in support of Dunlop North American operating units and external clients. Expertise in analytical, organic, physical and polymer chemistry, polymer physics, chemical and mechanical engineering, computer-based studies and automated industrial processes, computer-modelling of processes, information science, technology transfer.

Facilities: Infrared spectroscopy (DuPont 1090/951/DSC Cell Base II/842 TMA/990 equip.); gas chromatography; differential scanning calorimetry; DEC PDP-11 computer (Instron tensile/Monsanto rheometer); viscometers; rheometers; rubber & plastic processing with Brabender plasticorder. Rubber compounding pilot plant. Testing (ASTM/SAE methods.)

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

DURACELL INC.

2333 North Sheridan Way, Mississauga, Ontario, L5K 1A7.

Duracell Inc.; R&D Dept.

Admin. Contact: R.J. Book, Manager of R&D,
Tel: (416) 823-4410.

Scientific Contact: S. Mohanta, Manager of Electrochemical Eng., Tel: (416) 823-4410.

Personnel: Total is 35 of which 8 are scientists and engineers.

Activities: Research and Development of primary alkaline cells and batteries. Fields of specialization are: electrochemical as applied to materials, processes, and analysis of functioning of primary cells and batteries; mechanical as applied to design and structure of containers, components, seals and vents of primary cells and batteries; and electrical/electronic/computers as applied to evaluation of electrical discharge performance of primary cells and batteries.

Facilities: Electrode making; cell assembly; cell testing; electrochemical analysis.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

DY-4 SYSTEMS INC.

888 Lady Ellen Place, Ottawa, Ontario, K1Z 5M1.

DY-4 Systems Engineering - Hardware and Software Development

Admin. Contact: D. Osadca, Vice-President, Finance & Administration, Tel: (613) 728-3711.

Scientific Contact: Garry Dool, President,
Tel: (613) 728-3711.

Personnel: Total is 30 of which 10 are scientists and engineers.

Activities: Electronics engineering relating to both hardware and software development of STDbus and VMEbus modules and systems. STD and VME are industry standard (IEEE) bus architectures. All modules and systems are designed and manufactured in-house.

Current or Potential Work: self or parent, R&D for private sector.

DYMAXION RESEARCH LIMITED

5515 Cogswell Street, Halifax, Nova Scotia, B3J 1R2.

Research Unit

Admin. Contact: Robert Brown, Vice-President,
Tel: (902) 429-3175.

Scientific Contact: Dennis Misener, Software Development Manager, Tel: (902) 429-3175.

Personnel: Total is 23 of which 7 are scientists and engineers.

Activities: Develop and improve computer software techniques for management information systems. Specialize in simplifying means for management to control content, organization, format and timeliness of management information. Special focus on inventory, material requirements planning, accounting and activity management systems.

Facilities: Digital PDP/11-70 computer.

Current or Potential Work: self or parent, non R&D services for government, R&D for private sector, non R&D services for private sector.

DYNAMICS FLOATATION INC

Suite 102-3016 Henry Street, Port Moody, B.C., V3H 2K3.

Research Unit

Contact: A. James Emmerson, President,
Tel: (604) 461-9886.

Personnel: Total is 3 of which none are scientists and engineers.

Activities: Developing stronger and lighter syntactic foams for underwater vehicles and offshore drilling platforms and oceanographic vehicles.

Facilities: Hydrostatic testing chamber; mixer and vacuum system.

Current or Potential Work: R&D for private sector.

E.D. SMITH AND SONS LTD.

Highway #8, Winona, Ontario, L0R 2L0.

E.D. Smith and Sons

Contact: Mr. Peter Worozbyt, Director, Product Development, Tel: (416) 643-1211.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Applied research for advancement of scientific knowledge relating to existing products and potential new products. The purpose is to make improvements to existing product quality through formula/process changes and to develop new products that can be marketed by the Company. Areas of specialization include: tomato products, pie fillings, jams, condiments, diet products, and fruit-vegetable juices.

Current or Potential Work: self or parent.

E.V.S. CONSULTANTS LTD

195 Pemberton Avenue, North Vancouver, B.C., V7P 2R4.

Research Unit

Contact: Dr. P.M. Chapman, Vice-President, Tel: (604) 986-4331.

Personnel: Total is 15 of which 15 are scientists and engineers.

Activities: Biological and chemical studies related to environmental science. Areas of specialization include toxicology (aquatic bioassays in fresh and marine waters, using a variety of organisms), environmental chemistry (fate and effect studies), taxonomy (identification of aquatic organisms including new species and genera), and aquatic ecology (community assemblages related to natural and anthropogenic influences).

Facilities: Marine laboratory; fresh-water laboratory; bacteriological laboratory; taxonomy laboratory; microscopes and lab equipment; hydrolab and field equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ECHO-TEC LIMITED

925 Brock Road South, Pickering, Ontario, L1W 2X9.

Eco-Tec Research and Development Department

925 Brock Road S., Pickering, Ontario, L1W 2X9.

Admin. Contact: Craig J. Brown, Vice-President & General Manager, Tel: (416) 831-3400.

Scientific Contact: Cathy Fletcher, Laboratory Supervisor, Tel: (416) 831-3400.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: The primary work performed in the R&D unit involves pilot plant scale ion exchange process evaluations. Chemical recovery, pollution abatement and water treatment applications are those most often studied. Process modification or optimization to ultimately produce a piece of full scale equipment for a specific customer's requirements is often the aim of experimentation. Ion exchange resin evaluation, bench scale waste treatment testing, and some contract analysis work is also done.

Facilities: Atomic absorption spectrophotometer; programmable microprocessor controlled ion exchange pilot plant; B&L spectronic 20 spectrophotometer; series of screens and shaker for particle size analysis.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

ECONOTECH SERVICES LIMITED

852 Derwent Way, Annacis Island, New Westminster, B.C., V3M 5R1.

Econotech Services Ltd.

852 Derwent Way, New Westminster, B.C., V3M 5R1.

Contact: E.S. Becker, President, Tel: (604) 526-4221.

Personnel: Total is 23 of which 21 are scientists and engineers.

Activities: Pulp and paper all aspects; speciality pulps; environmental; chemical; forest products; byproducts.

Facilities: Pulping pilot plant; pulp bleaching equipment; pulp and paper testing equipment; analytical equipment; general pilot plant facilities; general laboratory facilities.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

EDO CANADA LTD

8-6320 11 St. S.E., Calgary, Alberta, T2H 2L7.

EDO Canada Product Development Dept.

Contact: Mr. John V. Watt, General Manager, Tel: (403) 255-6667.

Personnel: Total is 9 of which 6 are scientists and engineers.

Activities: Integrated navigation systems - optimal filtering; adaptive, distributed microprocessor based systems; geodetic and marine satellite positioning receivers; marine navigation and positioning simulation; data acquisition systems for marine applications.

Facilities: Navigation simulator on PDP 11/44; microprocessor development systems; PDP 11/44 and PDP 11/34 computers; temperature chambers.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

EIDETIC SYSTEMS CORPORATION

P.O. Box 13340, Kanata, Ontario, K2K 1X5.

Research Unit

Admin. Contact: E.A. Tromanhauser P.Eng., President, Tel: (613) 832-3755.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Industrial automation; computer software; fault tolerant computing.

Facilities: NIL

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

ELECTRO-VOX INC.

2626 chemin Bates, Montréal, Québec, H3S 1B2.

Research Unit

Admin. Contact: Rejea Duguay, Directeur finance, Tel: (514) 731-3771.

Scientific Contact: Robert Inglese, Chef du département, Tel: (514) 731-3771.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Communication system and fire alarm system.

Current or Potential Work: self or parent, R&D for private sector.

Note: Descriptive text has been translated from French.

ELSRO ASPHALT LTD

38-A Rayborn Crescent, St. Albert, Alberta, T8N 3C7.

Technical Services

Admin. Contact: Mr. Edward Forster, President, Tel: (403) 458-8773.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: General direction is better construction material development. Asphalt plank products are being examined to control their dimensionally stability (plank shrinkage study) and to develop planks of colours other than black (colour plank study); asphalt related waterproofing, roofing and crack sealing products (crack sealer study) are being studied; polymeric and other additives are sought to improve existing specialty concrete and construction adhesive lines, emphasizing acrylic, epoxy, silicone, and urethane polymers (polymer study). All the studies use thermal (TMA, TGA, DSC) IR, UV & VIS spectrophotometric, and electrometric techniques in addition to conventional chemical, physical, and engineering analytical methods.

Facilities: Differential scanning calorimeter; thermal gravimetric analyzer; thermal mechanical analyzer; IR spectrophotometer; UV and VIS spectrophotometer; asphalt testing instruments including penetrometer, R&B softening point apparatus, flash point testers.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

EMERY INTERNATIONAL DEVELOPMENTS LIMITED

3409 Yonge Street, Toronto, Ontario, M4N 2M8.

Research Unit

Contact: Roy W. Emery, President, Tel: (416) 481-5677.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Recycling of waste papers and paperboards; design and testing of wood pulping systems; design and testing of pulping methods for agricultural wastes (e.g. bagasse, straw); pulp moulding of natural fibres; pulp moulding of mineral fibres (e.g. rockwool); pulp moulding of synthetic fibres (e.g. polyethylene and polypropylene); development and testing of new container types.

Facilities: Pulp moulding pilot plant including moulding, drying and hot pressing equipment and all accessories.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

EMHART CANADA LIMITEE, DIVISION BOSTIK

2610 avenue Bennett, Montréal, Québec, H1V 2T8.

Laboratoire Bostik

2610 avenue Bennett, Montréal, Québec, H1V 2T8.

Admin. Contact: R. Gaudreault, Directeur général, Tel: (514) 255-3631.

Scientific Contact: D.A. Zervos, Directeur technique, Tel: (514) 255-3631.

Personnel: Total is 10 of which 9 are scientists and engineers.

Activities: R-D activities pertain mainly to the following: modernization of the existing range of products; development of new products and modification of existing products to meet a client's specific needs; and development of products with the hope of introducing them to an as-yet undeveloped market. Fields of specialization: epoxy systems (with solvent base, 100% active ingredients), hot melt adhesives, special adhesives for use in the construction industry, and products for sealing double glazing.

Facilities: Infrared spectrophotometer; infrared data station; and Instron, a universal test instrument.

Current or Potential Work: self or parent, non R&D services for private sector.

Note: Descriptive text has been translated from French.

ENERMODAL ENGINEERING LIMITED

421 King Street North, Waterloo, Ontario, N2J 4E4.

Research Unit

Admin. Contact: Donna Gibbs Carpenter, Business Manager, Tel: (519) 884-6421.

Scientific Contact: Stephen C. Carpenter, President, Tel: (519) 884-6421.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Computer modelling and analysis of heat transfer and energy, specifically in energy conservation and passive and active solar energy; mechanical design focussing on energy conservation, solar energy; energy audits; development of engineering computer software.

Facilities: One multi-user WICAT mini-computer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ENG RES ASSOC; DIV/TENNYSON HANSON MABSON & UFFEN ASSOC LTD

5 Framingham Drive, Thornhill, Ontario, L3T 4H2.

Engineering Research Associates, Div of Tennyson, Hansen, Mabson & Uffen Associates Ltd

Contact: G.E. Mabson, Research Engineer,

Tel: (416) 667-7701.

Personnel: Total is 5 of which 5 are scientists and engineers.

Activities: Aerospace related materials and structures research including experimental.

Facilities: Composite material manufacturing equipment; materials and structures test equipment; strain gauge instrumentation; computer facilities; space simulation chambers.

Current or Potential Work: R&D for government, R&D for private sector.

ENS BIOLOGICALS INC.

20 Victoria St., Ste 304, Toronto, Ontario, M5C 2N8.

Alberta Research Council

11315-87th Avenue, Edmonton, Alberta, T6G 2C2.

Admin. Contact: Barbara Kay, Administrative Assistant, Tel: (416) 366-4863.

Scientific Contact: Dr. Kathy Potter, Project Leader, Tel: (403) 439-3345.

Personnel: Total is 5 of which 5 are scientists and engineers.

Activities: Synthesis, cloning and expression of biologically active proteins with therapeutic potential.

Facilities: Complete molecular genetic laboratory.

Current or Potential Work: self or parent.

Alberta Research Council

11315-87th Ave, Edmonton, Alberta, T6G 2C2.

Admin. Contact: Barbara Kay, Administrative Assistant, Tel: (416) 366-4863.

Scientific Contact: Elaheh Keshavarz, Project Leader, Tel: (403) 439-5916.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: Separation and purification of active proteins from biological fluids.

Facilities: Complete protein separation laboratory.

Current or Potential Work: self or parent.

University of McGill Dept of Biochemistry; Otto Maass Chemistry Bldg

801 Sherbrooke Street West, Montréal, Québec, H3A 2K6.

Admin. Contact: Barbara Kay, Administrative Assistant, Tel: (416) 366-4863.

Scientific Contact: Richard T. Pon, Project Leader, Tel: (514) 849-0013.

Personnel: Total is 2 of which 2 are scientists and engineers.
Activities: Continued development of DNA synthesizer.
Current or Potential Work: self or parent.

EPIX INC.

1120, rue Cherbourg, Sherbrooke, Québec, J1K 2N8.

Research Unit

1851, rue Sherbrooke, Bureau 503, Montréal, Québec, H2K 4L5.

Admin. Contact: Marc Gagnon, Président,
Tel: (514) 527-1215.

Scientific Contact: Michel Turcotte, Vice-président,
Tel: (514) 527-1215.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Industrial engineering; new energy sources; transportation; management information systems; and software.

Facilities: Data processing.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Note: Descriptive text has been translated from French.

ERCO INDUSTRIES LIMITED

2 Gibbs Road, Islington, Ontario, M9B 1R1.

Research & Development Department

Contact: Dr. J.D. McGilvery, Manager R&D,
Tel: (416) 239-7111.

Personnel: Total is 23 of which 12 are scientists and engineers.

Activities: 1. Electrochemistry with special reference to the electrolysis of brine to make sodium chlorate. 2. Technology for the generation of chlorine dioxide. 3. Inorganic phosphorus/phosphate chemistry.

Facilities: Ion chromatograph; AA spectrophotometer.

Current or Potential Work: self or parent.

ERNST LEITZ CANADA LTD.

328 Ellen Street, Midland, Ontario, L4R 2H2.

Ernst Leitz Canada Limited

Admin. Contact: D. Stephenson, Director of Marketing and Commercial Operations, Tel: (705) 526-5401.

Scientific Contact: C. Stenton, Chief Optical Engineer,
Tel: (705) 526-5401.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: Optical design; optical/mechanical instrumentation; optical coatings; IR optics; MTF measurement; computerized interferometry.

Facilities: EROS MTF equipment; TROPEL interferometer; LEITZ 3 axis measuring machine.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

ETHICON SUTURES LTD.

1421 Lansdowne Street West, Peterborough, Ontario, K9J 7B9.

Ethicon Sutures Ltd. Research and Development Division

Contact: Martin Stephenson, Ph.D., Director of Research,
Tel: (705) 743-2220.

Personnel: Total is 9 of which 5 are scientists and engineers.

Activities: New product R&D with special emphasis on new biomaterials of interest in wound closure.

Current or Potential Work: self or parent.

EVANS COMPUTER APPLICATIONS LTD

6424 Norwood St., Halifax, N.S., B3H 2L3.

Research Unit

Contact: Valerie Evans, President, Tel: (902) 422-6378.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: Scientific computer system development.

Current or Potential Work: R&D for government, R&D for private sector.

EYECORP LTD

60 Bloor St. W.; Suite 705, Toronto, Ontario, M4W 3B8.

Research Unit

Admin. Contact: Dr. J.E. Josephson, President,
Tel: (416) 961-6671.

Scientific Contact: J.E. Josephson, President,
Tel: (416) 961-6671.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Ocular immunological response to contact lenses; contact lens design research; methods of analyses of the precocular tear film; development of ophthalmic solutions to reduce symptoms of dryness.

Facilities: High resolution video-biomicroscope; Holden-Zantos-Photobiomicroscope set up; electronic digital pachometer.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

F.T. GERSON LIMITED

55 Queen Street East, Toronto, Ontario, M5C 1R6.

Research Unit

Contact: F.T. Gerson, President, Tel: (416) 364-2457.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Consulting engineers specializing in metallurgy and materials science. Established 1960, design and characterization of new alloys and compositions in metals and plastics. Funding, launch and supervision of programs, feasibility studies, evaluation and settlement of claims.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

FARMATIC INC.

45 Meg Drive, London, Ontario, N6E 2V2.

Research Unit

Contact: Eric Jarman, President, Tel: (519) 686-7881.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Research and development of high tech on farm feed processing and materials handling systems for the automatic feeding of livestock and poultry.

Current or Potential Work: self or parent.

FARRINGTON, LOCKWOOD COMPANY LTD

P.O. Box 6797, Station J, Ottawa, Ontario, K2A 3Z4.

Research Unit

Contact: Michael Farrington, Research chemist,
Tel: (613) 226-7314.

Personnel: Total is 6 of which 6 are scientists and engineers.

Activities: 1) Chemical research on a contract basis for government and private sector organizations. 2) Clients have chemically related problems but lack the required in-house resources to perform their own R&D. 3) Company research expertise is diverse. 4) Recent specialization includes: lithium-thionyl chloride battery chemistry; lithium-sulfur dioxide battery chemistry; aviation gas turbine fuel analysis techniques; analysis techniques for toxic organics in ground water. 5) Present research involves: gas chromatography (GC), gas chromatography/mass spectroscopy (GC/MS), computer

programming/interfacing, standard wet chemical analysis, vacuum and controlled atmospheres apparatus.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

FEDERAL PIONEER LIMITED

19 Waterman Ave., Toronto, Ontario, M4B 1Y2.

Corporate R&D

Contact: C.A.A. MacPhee, Vice-President,

Tel: (416) 752-8020.

Personnel: Total is 38 of which 18 are scientists and engineers.

Activities: 600 volt air circuit breakers; miniature air circuit breakers; solid state relays; solid state controls; metalclad switchgear; HV/DC power transformers; bus duct; electric heat devices.

Current or Potential Work: self or parent.

FIBERGLAS CANADA INC.

3080 Yonge Street, Toronto, Ontario, M4N 3N1.

Research & Insulation Development

Technical Centre, P.O. Box 3005, Sarnia, Ontario, N7T 7M6.

Admin. Contact: Howard J. Bartlett, Manager, Administration & New Business Development, Tel: (519) 344-7461.

Scientific Contact: D.J. Holden, Manager, Research & Insulation Development, Tel: (519) 344-7461.

Personnel: Total is 79 of which 35 are scientists and engineers.

Activities: This laboratory is involved with the development of thermal and acoustical insulation products and energy conservation systems, and the processes to produce these products. In addition, they carry on research and development on the various chemical products used within Fiberglas Canada and on polyester resins and resin systems.

Current or Potential Work: self or parent.

Textile & Reinforcing Products Development

247 York Road, Guelph, Ontario, N1H 6P6.

Admin. Contact: Howard J. Bartlett, Manager, Administration & New Business Development, Tel: (519) 344-7461.

Scientific Contact: P.D. Shepherd, Manager, Textile & Reinforcing Products Development, Tel: (519) 824-0120.

Personnel: Total is 20 of which 8 are scientists and engineers.

Activities: This laboratory is responsible for the development of applications for fiberglass reinforced materials and for the introduction, to our customers, of new fabrication technology for FRM. Furthermore, it is responsible for the improvement and development of new processes for the forming of glass reinforcement products.

Current or Potential Work: self or parent.

FIRST SPICE MFG CORP CDA LTD

98 Tycos Drive, Toronto, Ontario, M6B 1V9.

First Spice Manufacturing Corporation Canada Limited

Admin. Contact: Basil L. Hotz, Vice-President, Tel: (416) 787-1201.

Scientific Contact: Julie Schlosser, Technical Advisor, Tel: (416) 787-1201.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: We specialize in product development for the meat processing industry by developing new products as well as improving existing formulas for our binders, cure and seasoning mixes. We also serve as industrial processing consultants. For example, we advise meat

packers on large capital purchases as well as helping to eliminate processing problems.

Facilities: The laboratory is equipped with pilot plant meat processing equipment. We also possess the necessary equipment to perform protein, dextrose, nitrite, phosphate, fat, ash, calcium, peroxide value and TBA value tests.

Current or Potential Work: self or parent, non R&D services for private sector.

FLEXI-COIL LTD.

PO Box 1928, Saskatoon, Saskatchewan, S7K 3S5.

R&D Department

Admin. Contact: Mr. G.S. Pask, Plant Manager, Tel: (306) 934-3500.

Scientific Contact: R. Memory, Manager, R&D, Tel: (306) 934-3500.

Personnel: Total is 15 of which 4 are scientists and engineers.

Activities: Agricultural equipment; tillage; seeding; spraying.

Current or Potential Work: self or parent, R&D for government.

FOCAL MARINE LIMITED

1378 Bedford Highway, Bedford, Nova Scotia, B4A 1E2.

Research Unit

Admin. Contact: Graham Smith, Executive Manager, Tel: (902) 835-1217.

Scientific Contact: Dr. Barry Paton, Senior Scientist, Tel: (902) 835-1217.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Devices to carry optical data through rotating interfaces (fibre optic sliprings). Flow measurement (optically) by Doffler. Flow measurement (optically) by Dual beam interference. Marine fouling (algae etc). Effects of saltwater environment on fibre optic devices (connectors, penetrators, etc).

Facilities: Optical multimeters; optical waveform generator; fusion splicer; OTDR (shortly).

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

FOREST ENGINEERING RESEARCH INSTITUTE OF CANADA

143 Place Frontenac, Pointe Claire, Québec, H9R 4Z7.

Forest Engineering Research Institute of Canada (Eastern Division)

Contact: D. Briere, Manager, Tel: (514) 694-1140.

Personnel: Total is 22 of which 12 are scientists and engineers.

Activities: Field oriented activities aimed at improving the efficiency of wood harvesting operations. Major areas of work include extraction, processing, and transportation of wood; and mechanization of silvicultural operations.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Forest Engineering Research Institute of Canada (Western Division)

2112 West Broadway, Suite 201, Vancouver, British Columbia, V6K 2C8.

Contact: G.V. Wellburn, Manager, Tel: (604) 732-3711.

Personnel: Total is 20 of which 11 are scientists and engineers.

Activities: Field oriented activities aimed at improving the efficiency of wood harvesting operations. Major areas of work include extraction, processing, and transportation of wood and mechanization of silvicultural operations.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

FORINTEK CANADA CORP.

6620 N.W. Marine Drive, Vancouver, B.C., V6T 1X2.

Forintek Canada Corp; Western Laboratory

Admin. Contact: J.C. Carrette, Director,
Tel: (613) 744-0963.

Scientific Contact: Mr. R.W. Stephens, Research Director,
Tel: (604) 224-3221.

Personnel: Total is 88 of which 50 are scientists and engineers.

Activities: Lumber manufacturing technology; wood science; wood engineering; wood protection/preservation; wood composites. *Forintek is the national wood products research institute in Canada.

Current or Potential Work: R&D for government, R&D for private sector, non R&D services for private sector.

Forintek Canada Corp; Eastern Laboratory

800 Montreal Road, Ottawa, Ontario, K1G 3Z5.

Admin. Contact: J.C. Carrette, Director,
Tel: (613) 744-0963.

Scientific Contact: Mr. J. Carrette, Research Director,
Tel: (613) 744-0963.

Personnel: Total is 100 of which 40 are scientists and engineers.

Activities: Lumber manufacturing technology; building construction technology; wood composites; biotechnology; wood materials testing/quality assurance; forest products economics. *Forintek is the national wood products research institute in Canada.

Current or Potential Work: R&D for government, R&D for private sector, non R&D services for private sector.

FOSTER WHEELER LIMITED

P.O. Box 3007, St. Catharines, Ontario, L2R 7B7.

Research and Development

Admin. Contact: Peter J. Adams, Vice-President,
Tel: (416) 688-4434.

Scientific Contact: Robert H. Renshaw, Divisional Vice-President, Tel: (416) 688-4434.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: 1. Related to welding and heavy metal manufacturing. 2. Related to heat transfer equipment development. 3. Related to combustion technology.

Current or Potential Work: self or parent, non R&D services for government.

FRASER INC.

27 Rice St., Edmundston, N.B., E3V 1S9.

Fraser Inc., Central Technical Dept.

Contact: W.D. Kerr, Vice-President, Corporate Technical Serv., Tel: (506) 735-5551.

Personnel: Total is 28 of which 13 are scientists and engineers.

Activities: Pulping of wood fiber; bleaching of wood fiber; coating of paper; environmental and resource recovery in pulp and paper manufacture; development of paper products.

Facilities: Lab scale coater; pulp and paper evaluation equipment.

Current or Potential Work: self or parent.

FRC COMPOSITES LTD

1993 Leslie St., Toronto, Ontario, M3B 2M3.

FRC Research and Development Group

1993 Leslie Street, Toronto, Ontario, M3B 2M3.

Admin. Contact: Ergo Karuks, President,
Tel: (416) 449-1405.

Scientific Contact: Marco Ferrara/Tim Hayes, Research Engineer, Tel: (416) 449-1405.

Personnel: Total is 5 of which 4 are scientists and engineers.

Activities: Fibre reinforced cementitious materials; polymer modified concrete; corrosion protection of steel; pipe coatings; sealers; waterproofing materials; asbestos encapsulants.

Facilities: Tension/compression tester; impact tester/adhesion tester; freeze/thaw; environmental chamber; spray equipment/booth; water/vapour permeability; temperature studies.

Current or Potential Work: self or parent, non R&D services for government.

FRENCH JEWELLERY CO. OF CANADA LTD

3750 Chesswood Dr., Downsview, Ontario, M3J 2W6.

French Jewellery Co of Canada Ltd

Admin. Contact: Gary Reed, P.Eng., Vice-President

Scientific Contact: Dick Manger, Plant Manager .

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: Develop specialized equipment for use in the manufacture of Jewellery products by bringing state of the art computer microprocessing to mechanical and pneumatic machines.

Current or Potential Work: self or parent.

FUNDY ISLES MARINE ENTERPRISES LTD

14 Montague Street, St. Andrews, New Brunswick, E0G 2X0.

Fundy Isles Marine Enterprises Ltd.

Contact: Chris Frantsi, President, Tel: (506) 529-8887.

Personnel: Total is 10 of which 5 are scientists and engineers.

Activities: Biological; aquaculture - development of shellfish culture systems; marine fouling - on offshore structures - predictive and analysis; shellfish purification - design and evaluation of systems; bacteriology - as related to shellfish; parasitology - identification of fish stocks using parasite profiles; plankton - surveys of ichthyoplankton and zooplankton.

Facilities: Bacteriology laboratory; microscopes; dissecting equipment; marine aquaculture site and rafts; barge and crane; boats.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

G.A. GRANT SCIENTIFIC CONSULTANTS LIMITED

46 Crystal Beach Drive, Nepean, Ontario, K2H 5M9.

Research Unit

Contact: G.A. Grant, President, Tel: (613) 828-0845.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: Development of a new safe sensory agent for use by military and police establishments. Toxicological studies and design of dispersal systems. Design of systems for production of filter systems for toxic gases.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

GANDALF DATA LTD

Gandalf Technologies Inc.; 33 John St., Manotick, Ontario, K0A 2N0.

Gandalf Data Ltd - Technology Div.

9 Slack Road, Nepean, Ontario, K2G 0B7.

Admin. Contact: Eric McFee, Manager, Information Services, Tel: (613) 225-0565.

Scientific Contact: Brian Penney, Director, Design Strategy,
Tel: (613) 225-0565.

Personnel: Total is 150 of which 50 are scientists and engineers.

Activities: Research carried out at this site includes product directed research in the following areas of data communications: centralized circuit switched data networks; statistical multiplexing; packet network design; limited distance modem design; digital signal processing; time division multiplexing; radio modem and mobile terminal dispatch systems.

Current or Potential Work: self or parent.

GAY LEA FOODS COOPERATIVE LTD

100 Clayson Road, Weston, Ontario, M9M 2G7.

Quality Assurance and Product Development

21 Speedvale Ave W., Guelph, Ontario, N1H 6J6.

Contact: Allan Chia, Dir, Quality Assurance & Product Dev., Tel: (519) 822-5530.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Vitamin A Analysis by HPLC and Carr-Price Methods; product development and improvement for: yogurt, yogurt fruit, chip dip, cottage cheese, salad dressings, dairy desserts - cheese cake, whipped topping, ice cream mix, dairy spreads, margarine, fortification of skim milk powder with vitamins A and D, pasta sauces; custom spray drying; certified lab for skim milk powder analysis.

Facilities: Waters Scientific HPLC; Pye-Unicon GLC, UV spectrophotometer; pilot plant evaporator and swept surface heat exchanger; anhydro spray dryer (20-30 lbs. product/hr); New Brunswick Scientific Fermentor; lab homogenizer/viscubator/ice cream freezer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

GAZ METROPOLITAIN INC.

1155 boul. Dorchester ouest, Montréal, Québec, H3B 3S7.

Service - Innovation et transfert technologique

1155, Boul. Dorchester Ouest, Montréal, Québec, H3B 3S7.

Contact: M. François Bozиковich, Directeur,

Tel: (514) 598-3727.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Most of the R&D work concerns the development of new technology for the use of natural gas and improvement of existing processes. The unit is currently performing research on the use of natural gas fuel for automobiles (GNV), high-efficiency boilers, electrically welded connectors for natural gas ducts (French technology) and industrial gas burners.

Facilities: Burner testing bench and test motors (internal combustion).

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

GEAC CANADA LIMITED

350 Steelcase Road West, Markham, Ontario, L3R 1B3.

Computer Systems Division - Geac Canada Limited

70 Valleywood Drive, Markham, Ontario, L3R 4T5.

Admin. Contact: Russell C. Stevenson, Manager, Business and Finance, Tel: (416) 475-7733.

Scientific Contact: Jim Aazam, Manager, Advanced Development & Engineering, Tel: (416) 475-7733.

Personnel: Total is 143 of which 42 are scientists and engineers.

Activities: Design of computer hardware architecture; design of computer operating software systems and application languages.

Current or Potential Work: self or parent.

GEMINI BIOCHEMICAL RESEARCH LTD.

#12-3610 29 St. N.E., Calgary, Alberta, T1Y 5Z7.

Research Unit

Contact: Mr. Ian Forrester, President, Tel: (403) 285-8565.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Contract research in the areas of Biotechnology, Applied Chemistry and Environmental Sciences; Developing new and improved products for the Agriculture Sector - examples are Biopesticides, Nitrogen Fixation, Growth Promoters. Also involved in Renewable Energy research, Pollution Control, Hazardous waste disposal.

Facilities: Fermentation equipment; analytical equipment; microbiological laboratory; general chemistry laboratory.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

GEN-TEC INC.

2625 Dalton, Ste-Foy, Québec, G1P 3S9.

Gen-Tec Inc.

Admin. Contact: Jean-Luc Giroux, Président,

Tel: (418) 651-8000.

Scientific Contact: Michel Verreault, Vice-président, R-D,

Tel: (418) 651-8000.

Personnel: Total is 18 of which 9 are scientists and engineers.

Activities: Electro-optics and microprocessor.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Note: Descriptive text has been translated from French.

GENERAL COMMUNION, INC.

P.O. Box 70, Station P, Toronto, Ontario, M5S 2S6.

GCI Laboratory

P.O. Box 70, Stn P, 1 Spadina Circle, Rm 205, Toronto, Ontario, M5S 2S6.

Contact: Dr. George Papachristodoulou, Director, Research and Development, Tel: (416) 978-4348.

Personnel: Total is 5 of which 4 are scientists and engineers.

Activities: Development of grinding equipment; development of processes yielding powders of desirable properties; powder technology in general.

Facilities: Grinding equipment; classification equipment; particle sizing equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

GENERAL FOODS INC.

P.O. Box 1200, Don Mills, Ontario, M3C 3J5.

Cobourg

520 William Street, Cobourg, Ontario, K9A 4L4.

Contact: P. Vasos, Branch Research Manager,

Tel: (416) 372 2171.

Personnel: Total is 59 of which 29 are scientists and engineers.

Activities: Emulsion - interaction and stabilizing factors; kinetics of carbohydrate food systems; dry grocery foods development; ready-to-eat grocery foods development.

Facilities: Electron spin resonance; differential scanning calorimeter; haake viscometer.

Current or Potential Work: self or parent.

Montréal

P.O. Box 100, LaSalle, Québec, H8R 3T7.

Contact: J. Meinhold, Research Laboratory Manager,

Tel: (514) 366-3600.

Personnel: Total is 30 of which 16 are scientists and engineers.

Activities: Roast and ground coffee development; instant coffee development.

Current or Potential Work: self or parent.

GENERAL MOTORS OF CANADA LTD

215 William St. E., Oshawa, Ontario, L1G 1K7.

Research Unit

Admin. Contact: Mr. Robertson, Director, Engineering & Forward Planning, Tel: (416) 644-6264.

Scientific Contact: F.C. Henry, Co-ordinator, R&D, Tel: (416) 644-6279.

Personnel: 450 scientists and engineers. (Note: Total personnel in R&D unit not available.)

Activities: Diesel Division in London have the largest R&D expenditure because they design and develop new products and are continuously improving existing technology. Also the nature of their products is such that each new order usually requires some unique development. Diesel Division are involved in the design and development of locomotives, heavy earth moving equipment and light armoured military vehicles. Product Engineering in Oshawa have an active alternative fuels program and operate a cold weather test facility at Kapuskasing which services all Divisions in the Corporation. Manufacturing Engineering have a variety of projects ongoing which are usually of a problem solving nature or implementing new technology in our manufacturing processes. Our in-house R&D activity in GM Canada is a function of our Engineering Staff and projects of this nature are in addition to normal job responsibilities and not the primary function of any personnel with the exception of the Manufacturing R&D coordinator.

Current or Potential Work: self or parent.

GENERAL REFRACTORIES CO. OF CANADA LTD.

Industrial Park Blvd., Smithville, Ontario, L0R 2A0.

Research Unit

Contact: Marty Wagenaar, Manager, Process & Product Dev., Tel: (416) 957-3311.

Personnel: Total is 8 of which 3 are scientists and engineers.

Activities: Develop new products relating to refractories.

Facilities: X-Ray defraction; rotary slag furnace; heating furnace.

Current or Potential Work: self or parent.

GEORGE KELK LIMITED

48 Lesmill Road, Don Mills, Ontario, M3B 2T5.

Research Unit

Admin. Contact: Peter G. Kelk, General Manager, Tel: (416) 445-5850.

Scientific Contact: Sydney T. Wiles, Chief Engineer, Tel: (416) 445-5850.

Personnel: Total is 18 of which 7 are scientists and engineers.

Activities: Strain gage type force sensors; non-contacting dimension gages; high-resolution motion transducers; design for operation in severe environments.

Facilities: Advanced digital equipment; high-accuracy force calibrating equipment to 5000 tons capacity.

Current or Potential Work: self or parent, R&D for private sector.

GIGATEK LTD

31 Progress Court, Unit 13, Scarborough, Ontario, M1G 3V5.

Research Unit

Contact: Greg Trice, Director of Engineering, Tel: (416) 439-4104.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Design and development of high resolution, variable scan rate colour computer data/graphics displays. These are designed with high video bandwidth amplifier, stable high voltage supplied (25-30KV) and unique scanning (raster) technologies.

Facilities: Wide range sync generator; EHT testers.

Current or Potential Work: self or parent.

GLANMAR MILLS LIMITED

521 Lebeau Boulevard, St. Laurent, Quebec, H4N 1S2.

Research Unit

Admin. Contact: Harry Glanz, Vice President, Tel: (514) 334-7002.

Scientific Contact: Robert MacLean, Plant Manager, Tel: (514) 334-7002.

Personnel: Total is 3 of which none are scientists and engineers.

Activities: Methods of producing Rachel Knitted fabrics for industrial applications; testing of various blends of fibres to establish viabilities in knitting applications.

Current or Potential Work: self or parent.

GLENAYRE ELECTRONICS LTD.

1551 Columbia Street, North Vancouver, B.C., V7J 1A3.

Research Unit

Admin. Contact: Phil Bradley, Vice-President and General Manager, Tel: (604) 293-1611.

Scientific Contact: P.W. Lancaster, Vice-President of Engineering, Tel: (604) 980-6041.

Personnel: Total is 57 of which 35 are scientists and engineers.

Activities: Communications engineering; VLSI chip development; High speed advanced signal processing technology.

Current or Potential Work: self or parent, R&D for government.

GLOBAL THERMOELECTRIC POWER SYSTEMS LTD

902-5th Ave, Bassano, Alberta, T0J 0B0.

Commercial Thermoelectrics / Military Thermoelectrics

Admin. Contact: Mr. Jack Brennan, Vice-President, Tel: (403) 641-3512.

Scientific Contact: Al Harris, General Manager, New Ventures, Tel: (403) 641-3512.

Personnel: Total is 30 of which 12 are scientists and engineers.

Activities: Global Thermoelectric converts combustion heat directly into electric power (no moving parts) with lead-telluride semi-conductor using the "Seebeck Effect". We specialize in combustion systems to produce extremely reliable remote electric power for monitoring or repeater stations.

Facilities: Environmental chambers (12' x 12' x 12'); Hazardous area test equipment; combustion rooms; Sorption regeneration equipment; lead-telluride semi-conductor facilities; thermoelectric power sources.

GRAPHIC CONTROLS CANADA LTD

215 Herbert St., Gananoque, Ontario, K7G 2Y7.

Graphic Controls Canada Limited

Contact: Dr. Wm. G. Meathrel, Research & Chemical Director, Tel: (613) 382-4733.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Development of gas sensing device to indicate safe levels of ethylene oxide. Development of a personal

dosimeter to indicate exposure to ethylene oxide. Development of medical gels and creams. Development of ECG monitoring electrodes. Development of conductive adhesives and conductive polymers.

Facilities: Infrared spectrophotometer; gas chromatograph; gas sterilizer/aerator.

Current or Potential Work: self or parent, R&D for government.

GREENING DONALD CO. LTD

55 Queen Street North, Hamilton, Ontario, L8N 3S3.

Research Unit

Contact: R.J. Wilcox, Director, Corporate Development, Tel: (416) 528-5971.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Applied research to create a line of, currently, aramid fibre ropes capable of operating in the same context as wire ropes. Other high strength fibres are also considered. Applied research in the general area of marrying plastics and extrusion technology with known wire rope technology to enhance the wire rope product line.

Current or Potential Work: self or parent.

GREGORY GEOSCIENCE LIMITED

1794 Courtwood Crescent, Ottawa, Ontario, K2C 2B5.

Research Unit

Contact: Dr. A.F. Gregory, President, Tel: (613) 224-9565.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Cerebral processing for image analysis - satellite and airborne data. Design and development of image analyzers. Integration of multiple sets of data for mapping. Development of techniques for thermatic mapping. Field testing of mapping techniques.

Facilities: PROCOM-2 image analyzer; PROCOM-3 & 4 image analyzers in prototype.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

GUERTIN BROS. COATINGS AND SEALANTS LTD

270 Assiniboine Ave, Winnipeg, Manitoba, R3C 0X6.

Research Unit

Admin. Contact: Tony Guertin, Jr., President, Tel: (204) 947-0491.

Scientific Contact: Tony Guertin Jr., President, Tel: (204) 947-0491.

Personnel: Total is 18 of which 14 are scientists and engineers.

Activities: R&D in free radical polymerization of acrylic polymers, effect of monomer composition on durability, reactivity with cross linking moieties and effect on coatings performance; R&D in condensation polymers including epoxy, polyester, alkyd and urethanes for effect of composition on performance of coatings; R&D in reactive polyesters, alkyds and epoxy resins for cross linking with reactive diluents; research in high solids, water borne and ultra violet radiation curable coatings; development in vapor phase curing. R&D in caulking compounds. R&D in urethane based sealants and encapsulants.

Facilities: Infra-red and gas chromatography.

Current or Potential Work: self or parent.

GULF CANADA LTD

130 Adelaide St. W., Toronto, Ontario, M5H 3R6.

Gulf Canada Limited Research and Development Department

2489 North Sheridan Way, Mississauga, Ontario, L5K 1A8.

Admin. Contact: Dr. R.K. Richie, Manager of Technical and Administrative Services, Tel: (416) 822-6770.

Scientific Contact: Mr. D.D. Zakaib, Manager, Gulf Canada Prod., Company Projects, Tel: (416) 822-6770.

Personnel: Total is 155 of which 125 are scientists and engineers.

Activities: R&D is directed towards meeting current and future needs of Gulf Canada's operating companies. Major professional disciplines are chemistry and chemical engineering. Major areas of applications are in: Processing: fuels, lubricants, petrochemicals, heavy oil upgrading, natural gas and coal. Products: automotive and industrial lubricants, fuels, asphalt and specialty products. Oil and gas production: enhanced oil recovery, heavy oil, natural gas, drilling and completions. Technical support: analytical, environmental, materials.

Facilities: Scanning Electron Microscope; Mass Spectrometer; High Pressure Phase Behaviour and Reaction Studies; Pilot Plant Units; Engine Test Stands; Mobile Laboratories.

Current or Potential Work: self or parent, R&D for government.

H.G. KALISH INC

165 Oneida Drive, Pointe Claire, Québec, H9R 1A9.

R&D Dept.

Admin. Contact: Graham Lewis, Vice-President, Tel: (514) 694-2390.

Scientific Contact: Peter Nichols, Chief Designer, Tel: (514) 694-2390.

Personnel: Total is 4 of which 1 is a scientist or engineer.

Activities: Investigation and development of prototypes for various types of packaging equipment.

Current or Potential Work: self or parent.

H.G.E. INC

260 Lesmill Rd., Don Mills, Ontario, M3B 2T5.

Advanced Analysis Group

250 Lesmill Road, Don Mills, Ontario, M3B 2T5.

Admin. Contact: P.H. Griggs, President, Tel: (416) 447-5535.

Scientific Contact: A. (Tony) Firmin, Vice-President, Tel: (416) 447-5535.

Personnel: Total is 9 of which 7 are scientists and engineers.

Activities: Finite element analysis for stress analysis, dynamic and seismic analysis, thermal analysis, non-linear analysis. Software development.

Facilities: 4 computers.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

H.L. BLACHFORD LTD.

2323 Royal Windsor Drive, Mississauga, Ontario, L5J 1K5.

Mississauga Laboratory

Contact: W.R. Summers, Lab Manager, Tel: (416) 823-3200.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Metal working compounds.

Facilities: Arnsler lubrication tester.

Current or Potential Work: self or parent.

Montréal Laboratory

977 Lucien L'Allier, Montréal, Québec, H3G 2C3.

Contact: M. Cole, Lab Manager, Tel: (514) 866-9775.

Personnel: Total is 6 of which 2 are scientists and engineers.

Activities: Heat stabilizers for PVC; lubricants for PVC; lubricants for rubber; lubricants for powdered metals; acoustical materials; construction materials.
Facilities: Brabender lab extruder.
Current or Potential Work: self or parent.

IIARRICANA METAL INC.

1675, route de l'Aéroport, Amos, Québec, J9T 3A8.

Ingénierie

Contact: Serge Roch, Président et directeur ingénierie,
Tel: (819) 732-8381.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Research and development for the production and subsequent improvement of new forestry equipment. This department also performs fatigue, wear, hydraulic pressure and structural tests on materials.

Facilities: Test bench; separate workshop.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

HAWKER SIDDELY CANADA INC

7 King Street East, Toronto, Ontario, M5C 1A3.

Kockums CanCar Inc.

Box 4200, Main Post Office, Vancouver, B.C., V6B 4K6.

Contact: T.L. Roche, Director of Engineering,
Tel: (604) 888-1515.

Personnel: Total is 20 of which 18 are scientists and engineers.

Activities: R&D for sawmill and lumber processing machinery and electronic control and guidance systems for this equipment. Continuing R&D to improve yield and surface finish of lumber processed from logs. Fabrication of panel boards from various materials.

Facilities: Laboratory scale presses and associated equipment to fabricate various types of building panel boards.

Current or Potential Work: self or parent, R&D for government.

Orenda Division

Box 6001, Toronto AMF, Ontario, L5P 1B3.

Admin. Contact: C.M. Hinds, Director, Marketing,
Tel: (416) 677-3250.

Scientific Contact: J.A. Barber, Acting Chief, Engineering,
Tel: (416) 677-3250.

Personnel: Total is 32 of which 8 are scientists and engineers.

Activities: Metallurgical failure analysis of gas turbine components (pipelines/bridges/wind turbine). Research and development on high speed bearing and shaft seals, shaft dynamics investigations. Strain gauge investigations on rotating and static assemblies. Fatigue testing of full scale railcar axles. Environmental testing (altitude, high and low temperature, dust, salt spray, vibration and shock).

Facilities: Strain gauge applications technology; calibration services to national standards (NRC/NBS/NTL); high temperature stress rupture tensile testing equipment; AAR axle fatigue testing machine; environmental chambers.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Corporate R&D Dept.

Box 6001, Toronto AMF, Ontario, L5P 1B3.

Contact: D. Quan, Director, Corporate R&D,
Tel: (416) 677-3250.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: R&D engineering for all divisions and subsidiaries of Hawker Siddeley Canada Inc.

Current or Potential Work: self or parent.

HELMITIN CANADA INC.

99 Shorncliffe Road, Toronto, Ontario, M8Z 5K7.

Development Laboratory

Contact: Ernie A. Leiner, President, Tel: (416) 239-3105.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Development of adhesives and coatings.

Current or Potential Work: self or parent.

HERMES ELECTRONICS LTD.

40 Atlantic Street, Dartmouth, N.S., B2Y 4A1.

Research Unit

Admin. Contact: Kent Farrell, Chief Engineer,
Tel: (902) 466-7491.

Scientific Contact: Andrew Keast, Manager, Advanced Development, Tel: (902) 466-7491.

Personnel: Total is 46 of which 25 are scientists and engineers.

Activities: R&D is performed in the general area of underwater acoustic detection and processing. The work is primarily of a development nature in areas which have potential for use in the company's manufactured products (sonobuoys). Specialization is concentrated in the field of hydro phones and low cost miniaturized electronic acoustic processing circuits.

Facilities: Computer controlled hydro acoustic tank; complete range of environmental test chambers including humidity, temperature, altitude, pressure and vibration; quiet deep ocean test site; software development system.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

HITECH CANADA LIMITED

1390 Prince of Wales Drive, Ottawa, Ontario, K2C 3N6.

R&D Group; Imager Products Division

36 Bentley Avenue, Nepean, Ontario, K2E 6T8.

Admin. Contact: Peter Smithers, General Manager,
Tel: (613) 226-7800.

Scientific Contact: Tony Kittridge, General Manager of Imaging Products, Tel: (613) 727-1400.

Personnel: Total is 20 of which 10 are scientists and engineers.

Activities: Image processing; includes - optical character recognition - hand print analysis - data compression - document scanning. Signal processing; includes - algorithm development and simulations for radar, communications and other types of electronic signals.

Facilities: Computer development system; Datascope.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

HOPE LABORATORIES LTD

P.O. Box 209, Shakespeare, Ontario, N0B 2P0.

Research Unit

Admin. Contact: Jan Skowby, Office Manager,
Tel: (519) 625-8891.

Scientific Contact: Conrad Van Dijk, President,
Tel: (519) 625-8891.

Personnel: Total is 8 of which 3 are scientists and engineers.

Activities: R&D is carried out on animals i.e. poultry, chickens and turkeys and pigs. The R&D is carried out in our laboratory facilities, in special research barns or on commercial farms using their barns and facilities. The most prominent form of R&D was testing of growth promotants, coccidiostats and antibiotics with or without challenge tests. Vaccines and diseases were also studied in these animals.

Facilities: Microbiology and serology lab; research barn for poultry and swine; availability of commercial barns.
Current or Potential Work: R&D for government, R&D for private sector.

HOWDEN APPLIED RES. LTD, A DIV. OF BROWN BOVERI HOWDEN INC

1510 Birchmount Road, Scarborough, Ontario, M1P 2G6.

Howden Applied Research Ltd

30 Continental Place, Scarborough, Ontario, M1R 2T4.

Admin. Contact: M.C. Bryan, V-President, Eng &

Commissioning, Tel: (416) 752-7310.

Scientific Contact: D. Sutton, Research Manager,

Tel: (416) 291-2539.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Design and development of high efficiency, heavy duty fans for power generation stations, mines, smelters, ventilation, sintering plants, etc.; Contract fan, ductwork and accessory flow simulation for internal aerodynamic studies; Overspeeding and balancing of production blowers; Stress, noise and vibration studies of rotating equipment.

Facilities: Flow measuring ducts, 38" dia X 42' long and 50" dia X 55' long; Blower overspeed stand 60" dia to 5000rpm; Strain gauge, sound and vibration measurement equipment; Fan and duct model building equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

HUMAN COMPUTING RESOURCES CORP.

10 St.Mary St.; Suite 401, Toronto, Ontario, M4Y 1P9.

Technical

Admin. Contact: Pat Gall, Research, Tel: (416) 922-1937.

Scientific Contact: Mike Tilson, Vice-President, Technical, Tel: (416) 922-1937.

Personnel: Total is 40 of which 35 are scientists and engineers.

Activities: UNIX operating systems; computer graphics; system tools, computer languages, text editors and applications running under UNIX; porting UNIX operating systems to various microprocessors.

Facilities: PDP, VAX microprocessor; target microprocessor.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

HURON CHEMICALS LTD.

P.O. Box 1145, 25 Don St., Kingston, Ontario, K7L 4Y5.

Huron Chemicals Limited

25 Don St., Kingston, Ontario, K7L 4Y5.

Admin. Contact: D. Owen, Vice-President and General Manager, Tel: (613) 546-2651.

Scientific Contact: Dr. D. Dong, Research Director, Tel: (613) 546-2651.

Personnel: Total is 10 of which 8 are scientists and engineers.

Activities: Inorganic electrochemistry; catalytic electrodes - design and formulation; electrolytic cell design; plastics and elastomers for corrosion resistance. Fields of specialization: sodium chlorate production cells, hydrogen peroxide production cells.

Facilities: Potentiostats; Gas chromatograph.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

HYCAL ENERGY RESEARCH LABORATORIES LTD.

4758-14 St. N.E., Calgary, Alberta, T2E 6L7.

Research Unit

Admin. Contact: John E. Blumell, Office Manager, Tel: (403) 230-1541.

Scientific Contact: Douglas W. Bennion, President, Tel: (403) 250-5800.

Personnel: Total is 14 of which 3 are scientists and engineers.

Activities: Hycal's objectives are to perform applied research and to provide consulting services to the petroleum industry in the areas of reservoir engineering and enhanced recovery. It offers the following services: 1. Reservoir engineering laboratory studies. 2. Special phase behaviour and core displacement studies. 3. Miscible flood studies. 4. Thermal recovery studies. 5. Numerical simulation of laboratory experiments. 6. Numerical simulation of pilot and field projects. 7. Reservoir engineering studies. 8. Development of enhanced oil recovery processes. 9. Design and fabrication of laboratory equipment and small pilot plants. 10. Research into prevention of well-bore damage.

Facilities: Large-scale combustion tube; large-scale core displacement equipment; numerical simulators; oil, gas and water analysis.

Current or Potential Work: R&D for government, R&D for private sector.

HYDRO-QUEBEC

75 Dorchester Blvd W, Montréal, Québec, H2Z 1A4.

Institut de recherche d'Hydro-Québec

1800, Montée Sainte-Julie, Varennes, Québec, J0L 2P0.

Admin. Contact: Jean Lacasse, Chef de service, Ressources et Information, Tel: (514) 652-8370.

Scientific Contact: Toby Gilsig, Vice-président, IREQ, Tel: (514) 652-8240.

Personnel: Total is 510 of which 145 are scientists and engineers.

Activities: The Institut de recherche d'Hydro-Québec (IREQ) is attempting to anticipate, study and fulfill Hydro-Québec's current and future technical needs by working to improve existing equipment, studying the optimal use of networks and equipment, and performing research on electrical phenomena. The IREQ also welcomes Canadian, American and other industries that produce and distribute electricity, and all manufacturers wishing to develop new equipment or improve their products. The R-D work performed at the institute pertains mainly to high-voltage power transmission, devices used in transmission and distribution, electrical phenomena, network simulation and controls, communications, materials, new energy sources and industrial uses of electricity.

Facilities: High-voltage laboratories and pollution chambers; mechanics laboratories; high-power laboratories; network simulators and electronic laboratories; hydrogen plant; Tokamak in Varennes; nuclear and applied chemistry laboratory; electrical insulating materials laboratories; metallurgy and hydraulic materials laboratories;

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Note: Descriptive text has been translated from French.

IBM CANADA LTD,

3500 Steeles Ave E, Markham, Ontario, L3R 2Z1.

IBM Canada Ltd Laboratory

1150 Eglinton Ave E, Don Mills, Ontario, M3C 1H7.

Contact: B. Andersen, Director, Tel: (416) 443-2230.

Personnel: Total is 800 of which 700 are scientists and engineers.

Activities: The laboratory does software development in the following areas: packet switching data networks (x.25); local area networks; national languages; computer languages; office systems; engineering and scientific applications and packaging; videotext.

Facilities: Large internal computer ctr.; 1x3033 computer; 2x3081 computer; 2x4331 computers; 15x5/36 computers; 11x5/38 computers.

Current or Potential Work: self or parent.

ICAM TECHNOLOGIES CORPORATION

1900 Sources Blvd, Pointe Claire, Québec, H9R 4Z3.

R&D Department

Scientific Contact: John J. Nassr, President,

Tel: (514) 697-8033.

Personnel: Total is 26 of which 26 are scientists and engineers.

Activities: CAD/CAM software and systems; plant automation and scheduling; computer aided learning; advanced manufacturing software; advanced manufacturing training centers.

Facilities: Computer equipment; computer equipment-microprocâCsor thru mainframe; manufacturing software.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

IEC - BEAK CONSULTANTS LTD

6870 Goreway Drive, Mississauga, Ontario, L4V 1P1.

IEC Beak Analytical Services (Laboratory)

Admin. Contact: D.O. Mallen, P.Eng., Vice-President,

Tel: (416) 671-2600.

Scientific Contact: John L. Robertson, Manager,

Tel: (416) 671-2600.

Personnel: Total is 20 of which 20 are scientists and engineers.

Activities: Pathways analysis - dispersion bioaccumulation and degradation of toxics in the biosphere; elimination of toxic waste discharges; minimization THM formation in drinking water; amphibian mutagenic test system.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

IEC Beak Consultants Ltd

Admin. Contact: D.O. Mallen, Vice-President,

Tel: (416) 671-2600.

Scientific Contact: Jerry Fitchko/Mike Holldran, Manager of Life Sciences/Physical Sciences, Tel: (416) 671-2600.

Personnel: Total is 35 of which 25 are scientists and engineers.

Activities: Pathways analysis - dispersion bioaccumulation and degradation of toxics in biosphere; elimination of toxic waste discharges; minimization THM formation in drinking water; amphibian mutagenic test system.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Toxicity Research Laboratory

Admin. Contact: D.O. Mallen, Vice-President,

Tel: (416) 671-2600.

Scientific Contact: Gordon Craig, Manager of Toxicity Research Group, Tel: (416) 671-2600.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Analysis and sampling development for UFFI; trace organics, indoor air quality.

Facilities: Equipment for continuous slow bio-assay.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ILCO UNICAN INC.

5795 De Gaspé, Montréal, Québec, H2S 2X3.

Ilico Unican Inc. (Corporate Lab)

Admin. Contact: M. Janis Terauds, Vice-président sen.,

Tel: (514) 273-0451.

Scientific Contact: Alex Branover, Directeur du laboratoire,

Tel: (514) 273-0451.

Personnel: Total is 9 of which 7 are scientists and engineers.

Activities: Lock mechanisms; and electronic components, circuits and units.

Facilities: Mechanical workshop; life-testing workshops; and design computers.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

IMA AQUATIC FARMING LIMITED

R.R. #1, Glenwood, Yarmouth County, Nova Scotia, B0W 1W0.

IMA Aquatic Farming Ltd

Contact: Brian H. Ives, President, Tel: (902) 643-2799.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Aquaculture - cultivation of salmonids and shellfish. Appropriate intermediate technology - passive solar/heat pump application. Hydroponics - scrubbing systems for fish hatchery. Economic analysis of R&D and production programmes.

Facilities: Fish hatchery; heat pumps; passive solar buildings.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

IMPERIAL OIL LIMITED

111 St. Clair Ave W., Toronto, Ontario, M5W 1K3.

Research Division, Esso Petroleum Canada

453 S. Christina St. (P.O. Box 3022), Sarnia, Ontario, N7T 7M1.

Admin. Contact: Clem W. Bowman, Vice-President,

Tel: (519) 339-2469.

Scientific Contact: Jack Walker, Asst. Manager,

Tel: (519) 339-2467.

Personnel: Total is 366 of which 91 are scientists and engineers.

Activities: Research and Development studies on Petroleum Processes and Products. Exploratory and applied research into processing of crude oils for fuels, lubricants and asphalts. Development and improvement of fuel products, automotive, industrial and process oils. Environmental Protection studies.

Facilities: Pilot plant; engine test laboratory; all weather chassis dynamometer; "State of the art" analytical laboratory.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Esso Chemical Canada; Chemical Technology Dept

480 S. Christina St. (P.O. Box 69), Sarnia, Ontario, N7T 2P1.

Contact: Mr. Brian L. Lockhart, Manager,

Tel: (519) 339-2716.

Personnel: Total is 70 of which 35 are scientists and engineers.

Activities: Research and Development and applied technical service to chemical product lines: Plastics (Poly vinyl chloride and polyethylene), Olefins, Oliphatic solvents, Aromatic solvents, Chemical intermediates, Lube additives, Other petrochemicals.

Facilities: Plastics fabricating/testing; process pilot plants; various hydrocarbon analytical.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

Esso Resources Canada Ltd, Research Department

339-50th Ave S.E., Calgary, Alberta, T2G 2B3.

Contact: Mr. V.C. Larson, Manager, Tel: (403) 259-0201.

Personnel: Total is 150 of which 70 are scientists and engineers.

Activities: Research supports exploration for and production of oil, natural gas, coal and minerals. Short term special problem solving, and long term development of processes, techniques and apparatus. Main research areas include: - drilling and completions; - tertiary recovery processes for conventional and light oils; - recovery processes for heavy oil; - coal characterization and beneficiation processes for coal minerals; - offshore sea and ice conditions, design of offshore structures; - geological and geophysical studies to locate subsurface deposits; - corrosion reduction using coatings, non-metallic materials, inhibitors.

Facilities: 30 x 60 metre ice and wave test basin; core analysis facilities; adiabatic tube for porous media flow studies; 3-D axial loading rock mechanics tests; field test truck for in situ stress measurements.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Technology Centre, Building Products of Canada Ltd

0244 St. Patrick St., Lasalle, Québec, H8R 1R8.

Contact: Mr. S.A. McIntosh, Technology Manager, Tel: (514) 364-0161.

Personnel: Total is 36 of which 20 are scientists and engineers.

Activities: Building Material applications covering roofing, sheathing and wood fibre board products and the corresponding processes. Special emphasis on Insulation, Industrial Roofing, and Asphalt Products.

Facilities: Industrial Roofing Test Lab.

Current or Potential Work: self or parent.

IMPERIAL TOBACCO LTD.

3810 St. Antoine Street West, Montréal, Québec, H4C 1B5.

Research & Development

734 Bourget, Montréal, Québec, H4C 2M7.

Admin. Contact: Dr. P.J. Dunn, Vice-President, R&D, Tel: (514) 932-6161.

Scientific Contact: Dr. S.R. Massey, Director, R&D, Tel: (514) 932-6161.

Personnel: Total is 49 of which 22 are scientists and engineers.

Activities: Activities of R&D related to tobacco and tobacco products which include development of new products and improvements of existing ones. Fields of specialization: biological, agricultural, analytical, physical chemistry, organic chemistry, process development.

Facilities: Gas chromatographs; technicon autoanalyzer; UV and infra-red spectrophotometer; CO meters; specialized smoking machines.

Current or Potential Work: self or parent.

INCO LIMITED

Box 44, 1 First Canadian Place, Toronto, Ontario, M5M 1M9.

Inco Limited J. Roy Gordon Research Laboratory

Sheridan Park, Mississauga, Ontario, L5K 1Z9.

Admin. Contact: Dr. John H. Blakeley, Manager, Research Services, Tel: (416) 822-3322.

Scientific Contact: Dr. James A.E. Bell, Director of Research, Tel: (416) 822-3322.

Personnel: Total is 83 of which 31 are scientists and engineers.

Activities: Research in the extractive metallurgy of nickel and copper-nickel ores. Disciplines include mineral processing, pyrometallurgy, hydrometallurgy and electrochemistry. Integrated pilot plants in Port Colborne are used for large scale testing of pyrometallurgical and hydrometallurgical processes.

Facilities: Integrated pilot plants.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

INDUSTRIAL ADHESIVES DIVISION OF TIMMINCO LIMITED

90 Tycos Drive, Toronto, Ontario, M6B 1W2.

Research Unit

Contact: Dr. C.P.R. Jennison, Director, R&D, Tel: (416) 781-6113.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Development of passive and reactive, solvent, water and hot melt based adhesives and coatings for the packaging, automotive, converting, etc. markets.

Facilities: IR Spectrometer; GC (capillary and packed column); LC/GPC.

Current or Potential Work: self or parent.

INDUSTRIAL APPLICATIONS OF MICROELECTRONICS CENTRE, INC.

5th Floor, Engineering Bldg., U of M, Winnipeg, Manitoba, R3T 2N2.

Research Unit

5th Floor, Engineering Bldg, U of M, Winnipeg, Manitoba, R3T 2N2.

Admin. Contact: Alan Shade, General Manager, Tel: (204) 261-9620.

Scientific Contact: Dr. W. Kinsner, Director of Research, Tel: (204) 261-9621.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Systolicon (R); process control; ocular pulse; data acquisition systems; local network architecture; industrial graphics processor.

Facilities: Intellec IV and III; VLSI Design Station; Modicon Touchscreen Station; Hewlett Packard 68000.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

INDUSTRIES ALMA MECANIC INC. (LES)

200 avenue des Pins, Alma, Québec, G8B 6P9.

Service de recherche et développement

200 avenue des Pins ouest, Alma, Québec, G8B 6P9.

Admin. Contact: Stéphane Labbé, Contrôleur, Tel: (418) 668-7907.

Scientific Contact: Gaetan Bouchard, Ingénieur, Tel: (418) 668-7907.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Fixed and semi-portable unloading ramp. Semitrailer (forestry, flat bed for heavy equipment and bulk transportation of low- and high-density materials).

Current or Potential Work: self or parent, non R&D services for private sector.

Note: Descriptive text has been translated from French.

INDUSTRIES PROVINCIALES LTEE (LES)

140 Commercial, St-Damien, Bellechasse, Québec, G0R 2Y0.

Research Unit

Admin. Contact: Jean-Marie Chabot, Directeur, R-D,
Tel: (418) 789-2880.

Scientific Contact: Marcel Riou, Adjoint, recherches,
Tel: (418) 789-2880.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: We specialize in injection moulding of thermoplastics. Our research goal is to mould various geometric shapes in a laboratory in order to gain an understanding of the volumetric and linear shrinkage that occurs after moulding. The data we obtain are used to develop a mathematical model.

Facilities: Injection equipment, 120 TX microprocessor; four variously shaped moulds; 2500 kg capacity Instron; moulding press; temperature regulators; and precision measuring instruments and scale.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

INFRARED PHOTOGRAPHIC LTD.

74 Burland St., Ottawa, Ontario, K2B 6K1.

Research Unit

Contact: W.E. Pinson PhD, Principal Investigator,
Tel: (613) 828-0683.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Tandem photovoltaic solar cells; CdSe/p+n c-Si solar cells; Amorphous silicon/c-Si or poly-Si stacked solar cells; photoelectro-chemical solar cells; studies on semiconductor/electrolyte interface, dark and illuminated; application of the above to IR imaging; application of the above to electrolysis and hydrogen storage.

Facilities: Glass cells for testing PEC solar cells; 3-chamber hot wall evaporator for forming and doping II-VI films at the same time.

Current or Potential Work: self or parent, R&D for government.

INGERSOLL RAND CAN. INC.

630 Dorchester Blvd W., Montréal, Québec, H3B 1S6.

Ingersoll Rand Can. Inc. - Cambridge Test Facility

560 Conestoga Blvd, Cambridge, Ontario, N1R 5X3.

Admin. Contact: R. Garth Warren, General Manager,
Pump Group, Tel: (519) 621-4020.

Scientific Contact: Jan L. Duha, Development Engineer,
Tel: (519) 621-4020.

Personnel: Total is 6 of which 2 are scientists and engineers.

Activities: Development of slurry pumps. Three test loops, instrumented to measure flow variables and to monitor fluid properties. Data acquisition system and multiple channel dynamic recording (pressure, strain, proximity probes, LVDT's). Flows involved: 7000; 200 & 75 USGPM at up to 1500 PSIG.

Facilities: Independent sub station 37,500 kw; F.D. cooling tower 12 X 10(6) BTU/HR; computers HP 9845 and HP 85 plotter HP 7225B, printer HP 2631 G; 2 data loggers HP 3497; 14 channel F.M. tape rec; FFT analyzer miller - abrasivity tester.

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

INGERSOLL RAND CANADA INC.

630 Dorchester Blvd W., Montréal, Québec, H3B 1S6.

Coal Slurry Pump Development

560 Conestoga Blvd, Cambridge, Ontario, N1R 5X3.

Admin. Contact: R.G. Warren, General Manager,
Tel: (519) 621-4020.

Scientific Contact: Jan Duha, Development Engineer,
Tel: (519) 621-4020.

Personnel: Total is 12 of which 4 are scientists and engineers.

Activities: Development of a full size coal slurry mainline pump and its components.

Facilities: Full size test loop (1); sub scale component test rig loops (2); Miller abrasivity test rig (1).

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

INMONT CANADA INC.

10 Craig Street, Brantford, Ontario, N3T 5M3.

Research Unit

845 Wyandotte St. W., Windsor, Ontario, N9A 5Y1.

Contact: L.S. Hughes, Technical Director,
Tel: (519) 256-3155.

Personnel: Total is 30 of which 17 are scientists and engineers.

Activities: Protective coatings for the transportation industry - acrylic, urethane, polyester and epoxy polymers.

Facilities: Accelerated weathering equipment; accelerated corrosion equipment; dispersion equipment; application equipment for coatings.

Current or Potential Work: self or parent.

INRAD INDUSTRIAL R&D LTD

128 Adelaide Street, Winnipeg, Manitoba, R3A 0W5.

Research Unit

Contact: Mr. Edward A. Speers, P.Eng., President,
Tel: (204) 943-6870.

Personnel: Total is 8 of which 3 are scientists and engineers.

Activities: New product development: plastics, petroleum, chemical engineering, agriculture, energy, solar, hydrogen detection, biomass conversion, electronics, new product development.

Facilities: Chemistry laboratory; machine shop; vacuum forming; injection moulding; extrusion machinery; design and drafting.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

INTEG-INTERCONTINENTAL ENGINEERING LTD

1155 West Pender Street, Vancouver, B.C., V6E 2P4.

INTEG-Intercontinental Engineering Ltd.

Admin. Contact: Brian A. Simons, Manager, Business Development, Tel: (604) 682-7841.

Scientific Contact: Ian Plumbly, Manager, Special Projects,
Tel: (604) 682-7841.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: INTEG specializes in utility and industrial power systems. It performs R&D work for clients on an assignment basis in the following areas among others: wood waste and coal gasification, fluidized combustion, coal liquefaction, wood waste utilization, energy management.

Current or Potential Work: R&D for government.

INTELLITECH CANADA LTD

352 MacLaren Street, Ottawa, Ontario, K2P 0M6.

Advanced Systems Engineering

Admin. Contact: K.C. Toth, President, Tel: (613) 236-7803.
Scientific Contact: S.A. Mahmoud, Vice-President,
Tel: (613) 236-7803.
Personnel: Total is 5 of which 5 are scientists and engineers.
Activities: Data encryption and security; HF and UHF/VHF packet radio communications; multi-microprocessor/fault tolerant architectures; distributed processing and database systems.
Facilities: Microprocessor development systems; VAX 11/730 mini-computer; data comm. analyzers; logic analyzers, scopes, signal generators, etc.
Current or Potential Work: R&D for government.

INTERA TECHNOLOGIES LTD

1200 510 5th Street S.W., Calgary, Alberta, T2P 1V6.
Modelling and Data Systems Group
1200, 510 - 5th Street S.W., Calgary, Alberta, T2P 3S2.
Contact: Mr. Doug Davison, Vice-President, Modelling and Data Systems Group, Tel: (403) 266-0900.
Personnel: Total is 7 of which 6 are scientists and engineers.
Activities: Ice management computer workstations for use in Arctic offshore operations; ice motion forecast models; air quality dispersion computer models particularly for complex terrain; cloud physics and weather modification.
Facilities: Cessna Conquest turboprop with cloud physics equipment.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Radar Group

1200, 510 - 5th Street S.W., Calgary, Alberta, T2P 3S2.
Contact: Mr. D.R. Inkster, Vice-President, Radar Group, Tel: (403) 266-0900.
Personnel: Total is 8 of which 8 are scientists and engineers.
Activities: Radar image display systems primarily for airborne and marine radar for use in ice-infested waters.
Facilities: Cessna Conquest turboprop with synthetic aperture radar (SAR); Cessna Conquest turboprop with SLAR; airborne radar downlink; dedicated Masscomp 500 super micro for image research.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

INTERACTIVE CIRCUITS & SYSTEMS LTD.

3101 Hawthorne Road, Ottawa, Ontario, K1G 3V8.
Research Unit
Admin. Contact: Mrs. S. Pennington, Office Manager, Tel: (613) 521-0590.
Scientific Contact: Dr. D. Roy, President, Tel: (613) 521-0699.
Personnel: Total is 10 of which 8 are scientists and engineers.
Activities: Real-time digital signal processor for applications in sonar, radar, communications, instrumentation, etc.
Facilities: Mini/Micro computers; spectrum analyzers; logic analyzers; oscilloscopes; power supplies; mechanical workshop.
Current or Potential Work: self or parent, R&D for government, R&D for private sector.

INTERCANE SYSTEMS INC.

2679 Howard Avenue, Windsor, Ontario, N8X 3X2.

Sugar Cane Separation Group

Admin. Contact: F. Rajic, President & General Manager, Tel: (519) 969-5600.
Scientific Contact: W. Rogers, R&D Manager, Tel: (519) 969-5600.
Personnel: Total is 5 of which 2 are scientists and engineers.
Activities: Development of machinery, equipment, systems and technologies to process sugar cane in a novel way, in accordance with inventions and patents of S.E. Tilby and R.B. Miller.
Facilities: All equipment and facilities of Intercane Systems Inc. and its associated company Arvid Machine Tools Ltd.
Current or Potential Work: self or parent.

INTERCONTINENTAL DATA CONTROL CORP LTD

2373 Stevenage Drive, Ottawa, Ontario, K1G 3W1.
Engineering Division
Admin. Contact: Mary Lou Davies, Engineering Secretary, Tel: (613) 733-4440.
Scientific Contact: Ameer Jinah, Engineering Manager, Tel: (613) 733-4440.
Personnel: Total is 15 of which 6 are scientists and engineers.
Activities: Telecommunications, specializing in data transmission, modulation and demodulation using microprocessors.
Facilities: Wide range of electronic test equipment including microcomputers and PROM programmers.
Current or Potential Work: self or parent, R&D for government.

ISTEC LIMITED

1810 C, Hwy 6 N., Hamilton, Ontario, L9J 1H2.
Research Unit
Admin. Contact: J.D. Creighton, Business & Marketing Manager, Tel: (416) 529-5132.
Scientific Contact: J.N. Leavitt, President, Tel: (416) 529-5132.
Personnel: Total is 10 of which 5 are scientists and engineers.
Activities: Graphics overlay onto NTSC, PAL, SECAM VIDEO; gyro stabilization; electro-optics; optical, infra-red, digital imaging, electro-optical-mechanical servos for lenses, cameras, sensors; gyro-stabilized aerial borne antennas - UHF and Microwave; remotely controlled imaging.
Facilities: N.C. machining centre; optical and electronic measurement instruments; microprocessor development system exoterm (MC 6802).
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ITT BUSINESS COMMUNICATIONS

171-175 Dawson Road, Guelph, Ontario, N1H 1A1.
Research Unit
175 Dawson Road, Guelph, Ontario, N1H 1A1.
Contact: Orv Warner, Director of Engineering, Tel: (519) 821-2000.
Personnel: Total is 90 of which 55 are scientists and engineers.
Activities: Telecommunications.
Facilities: VAX; C.A.D.
Current or Potential Work: self or parent.

IVI INC.

CP 790, Courcelette, Québec, Québec, G0A 1R0.

Laboratoire R/D, IVI INC.

2,500 boul. Pie XI Nord, Courcellette, Québec, G0A 1R0.

Admin. Contact: Jean-Pierre Drolet, Vice-président,

Tel: (418) 844-3711.

Personnel: Total is 16 of which 8 are scientists and engineers.

Activities: Ballistics tests; Brass and aluminium projectile and case production; High speed photography: high precision machining; Metal drawing; Plastics molding; Finite element stress analysis. Areas of expertise: physics, mechanics, electronics, metallurgy, chemistry.

Facilities: Indoor/outdoor firing range; pilot plant; machine and electronics shop; drawing press; computers; metallurgical equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Note: Descriptive text has been translated from French.

J.D. KOPPERNAES ENGINEERING LTD.

1248 Bedford Highway, Bedford, Nova Scotia, B4A 1C6.

Research Unit

Admin. Contact: J.D. Koppernaes P. Eng., Chairman,

Tel: (902) 835-8348.

Scientific Contact: Glenn Ross P. Eng., Vice-President,

Tel: (902) 835-8348.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Air agitation of seaweed; anaerobic digester on fish meal effluent; anaerobic digester on cheese plant effluent.

Current or Potential Work: R&D for government, R&D for private sector.

J.M. SCHNEIDER INC.

321 Courtland Avenue East, Kitchener, Ontario, N2G 3X8.

J.M. Schneider Inc., Research and Development

Admin. Contact: Mr. Howard G. Schneider, V-President,

Research and Development, Tel: (519) 885-8240.

Scientific Contact: Mr. John D. Porteous, Senior Research Spec., Tel: (519) 885-8157.

Personnel: Total is 12 of which 4 are scientists and engineers.

Activities: Meat and meat products - beef, pork, mutton and poultry; fats and oils; bakery products; cheese; grocery products - pickles, salad products, fillings, etc.

Current or Potential Work: self or parent, R&D for government.

JOHN DEERE WELLAND WORKS OF JOHN DEERE LIMITED

Regional Road #68, Welland, Ontario, L3B 3N3.

Research Unit

Admin. Contact: S.R. Hiseler, General Manager,

Tel: (416) 734-4501.

Scientific Contact: W.R. MacGregor, Manager, Product Engineering, Tel: (416) 734-4501.

Personnel: Total is 76 of which 22 are scientists and engineers.

Activities: Design and development of agricultural implements and attachments for farm tractors, specifically: agricultural loaders, rotary cutters, manure spreaders, rear blades, wagon gear and forage wagons, snowblowers.

Facilities: Stress coat and strain gauge; telemetry trailer with computer and recorders; finite element analysis; miscellaneous test fixture capabilities.

Current or Potential Work: self or parent.

JOHNSON & JOHNSON INC. RES. & DEV. CENTRE

2155 Blvd. PIE IX, Montréal, Québec, H1V 2E4.

Research & Development Centre (J&J Inc.)

7101 Notre Dame Street East, Montréal, Québec, H1N 2G4.

Contact: A.P. Ruffo, Vice-President, Research and Development Division, Tel: (514) 252-5000.

Personnel: Total is 65 of which 29 are scientists and engineers.

Activities: Microbiology; physical chemistry - absorbency; textiles - nonwovens; adhesive - chemistry; polymer - chemistry.

Current or Potential Work: self or parent.

JOHNSON MATTHEY LIMITED

110 Industry Street, Toronto, Ontario, M6M 4M1.

Development Department

Admin. Contact: A.J. Frost, Secretary, Tel: (416) 763-5111.

Scientific Contact: D.R. Jordan, Mgr. Market Development, Tel: (416) 763-5111.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Electrical contacts: methods of fabrication, techniques of attachment, alloy development; brazing alloys: alloy development; jewellery alloys: alloy development, fabrication methods, property testing.

Current or Potential Work: self or parent.

JOSEPH E. SEAGRAM & SONS, LTD.

1430 Peel Street, Montréal, Québec, H3A 1S9.

Research Department, Joseph E. Seagram & Sons Ltd.

225 Lafleur Ave., Ville la Salle, Québec, H8R 3H2.

Contact: A. Peterson, Manager, Technical Services, Tel: (514) 366-2410.

Personnel: Total is 19 of which 15 are scientists and engineers.

Activities: Biochemical and microbiological studies on alcohol fermentation; process development and process improvement applied to alcoholic beverage production technology; new product development; flavour research.

Facilities: Fermentation pilot plant; computer facility; analytical instrumentation: GC; HPLC; UV; IR; AA.

Current or Potential Work: self or parent.

KB ELECTRONICS LIMITED

150 Bluewater Rd, Bedford, NS, B4B 1G9.

Defence Group

Admin. Contact: Heidi Baumgartner, Vice-President,

Tel: (902) 835-7268.

Scientific Contact: Joe Drobniak, Manager, Engineering,

Tel: (902) 835-7268.

Personnel: Total is 14 of which 8 are scientists and engineers.

Activities: Specialize in electrical power conversion UPS-systems and frequency changer low to high power for defence applications. Also develop RF circuits transmitters/receivers up to 250 MHz for special purpose. High frequency switching power supplies and converters/inverters.

Facilities: Environmental chambers; vibration system; computerized EMI testing; high power 400 Hz

Current or Potential Work: self or parent, R&D for private sector.

KBM FORESTRY CONSULTANTS INC.

360 Mooney Street, Thunder Bay, Ontario, P7B 5R4.

Research Unit

Admin. Contact: Herb Bax, President, Tel: (807) 344-0811.

Scientific Contact: David Reid, Project Forester, Tel: (807) 344-0811.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Reforestation equipment development; reforestation techniques (e.g., specialized planting, seeding, etc.); growth studies.
Facilities: Herbicide applicator for a scarifier.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

KENTING EARTH SCIENCES LIMITED

380 Hunt Club Road, Ottawa, Ontario, K1G 3N3.

Research Unit

Contact: D.C. Fitzsimmons, Vice-President,
Tel: (613) 521-1630.
Personnel: Total is 6 of which 4 are scientists and engineers.
Activities: Airborne geophysical equipment and data processing; photogrammetric data processing.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

KIDD CREEK MINES LTD

Suite 5000, Commerce Court W., Toronto, Ontario, M5L 1E7.

Corporate Research and Development, Kidd Creek Mines

Suite 5000, Commerce Court West, Toronto, Ontario, M5L 1E7.
Admin. Contact: D. Lowe, Vice-President, R&D,
Tel: (416) 860-6400.
Scientific Contact: Dr. D.J. Scott, Sr. Staff Scientist,
Tel: (705) 235-8121.
Personnel: Total is 2 of which 2 are scientists and engineers.
Activities: Provide liaison with outside R&D facilities (universities, governmental organizations (e.g., CANMET), and private research groups), conduct investigations into mineralogical, metallurgical, and exploration research problems and provide some co-ordination with company R&D (essentially process development and optimization) groups in each of various metallurgical and mining operations. In all, about 35 engineers, geologists and chemists can be identified as having some R&D function or responsibility.
Current or Potential Work: self or parent.

KING GRAIN LTD.,

P.O. Box 1088, Chatham, Ontario, N7M 5L6.

Corn Breeding Unit

Admin. Contact: F. Scott-Pearse, Director of Research,
Tel: (519) 354-3210.
Scientific Contact: S. Kuzir, Corn Breeder,
Tel: (519) 354-3210.
Personnel: Total is 16 of which 4 are scientists and engineers.
Activities: Hybrid corn breeding; inbred development; population improvement; hybrid testing; foundation seed production.
Facilities: 200 acre research farm.
Current or Potential Work: self or parent.

Cereal Research Unit

RR #2, Listowel, Ontario, N4W 3G7.
Admin. Contact: F. Scott-Pearse, Director of Research,
Tel: (519) 354-3210.
Scientific Contact: K. Kennema, Mgr. Cereal Research,
Tel: (519) 291-2201.
Personnel: Total is 5 of which 2 are scientists and engineers.
Activities: Cereal variety selection; cereal intensive management research.

Facilities: 40 acre research farm.
Current or Potential Work: self or parent, R&D for private sector.

Pulse Breeding Unit

Admin. Contact: F. Scott-Pearse, Director of Research,
Tel: (519) 354-3210.
Scientific Contact: N. Bradner, Pulse Breeder,
Tel: (519) 354-3210.
Personnel: Total is 7 of which 1 is a scientist or engineer.
Activities: Soybean breeding; variety testing; breeder's seed production; mung bean breeding.
Facilities: 200 acre research farm.
Current or Potential Work: self or parent.

KINGSMILL FOODS COMPANY LTD

1399 Kennedy Rd, Unit 17, Scarborough, Ontario, M1P 2L6.

Kingsmill Foods Co. Ltd

1399 Kennedy Road, Scarborough, Ontario, M1P 2L6.
Admin. Contact: Ms. Dorion Kingsmill, President,
Tel: (416) 755-1124.
Scientific Contact: Bonnie Holmes, Technical Services Manager, Tel: (416) 755-1124.
Personnel: Total is 2 of which 2 are scientists and engineers.
Activities: Allergy related food: gluten free, low protein; hot chocolate; crystal drinks.
Current or Potential Work: self or parent.

KRAUS INDUSTRIES LTD

Box 250, 204 Day St., Winnipeg, Manitoba, R2C 1A8.

Research Unit

Admin. Contact: B. Carter, Comptroller,
Tel: (204) 224-1616.
Scientific Contact: D. McCarroll, Director, Engineering,
Tel: (204) 224-1616.
Personnel: Total is 7 of which 5 are scientists and engineers.
Activities: We develop industrial control equipment based mainly on micro processor hardware and software. Main areas of previous development include remote computer communications, local area distributed control systems, VHF radio control systems. All hardware and software is developed in-house down to the component level. We mainly serve the oil industry but have developed several consumer oriented products as well.
Facilities: Micro-processor development lab.
Current or Potential Work: self or parent.

L.A.S.E.R. TECHNOLOGY INC.

19 Union St. N., Melbourne, Ontario, N0L 1T0.

Research Unit

Contact: Ted Spencer, President, Tel: (519) 289-5900.
Personnel: Total is 2 of which none are scientists and engineers.
Activities: Scanning laser receivers - development for surveying and machine elevation control; gravity/horizon reference tilt sensing and control; single-chip computer software development; single-chip computer system design.
Facilities: Motorola Hardware/Software Development System.
Current or Potential Work: self or parent, R&D for government, R&D for private sector.

L.H. FROST LIMITED

1130 - 8th Line, Oakville, Ontario, L6H 2R4.

Frost Ottawa Division

311 Richmond Road, Ottawa, Ontario, K1Z 6X3.

Contact: Mr. Hans Andersson, General Manager,

Tel: (613) 728-4966.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Electro magnetic components for the telecommunications and computer industry such as: transformers (electronic); chokes; coils; filters. Both ferrite core and silicon steel core devices.

Facilities: General electronic.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

LAB VOLT QUEBEC LTEE

2120 Lavoisier, Ste Foy, Québec, G1N 4B1.

Research Unit

Admin. Contact: Guy Goupil, Directeur,

Tel: (418) 681-6346.

Scientific Contact: Gilles Delisles, Directeur technique,

Tel: (418) 681-6346.

Personnel: Total is 11 of which 7 are scientists and engineers.

Activities: Applied research in analog, digital, antenna and microwave communications for the educational market.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

LABATT BREWING COMPANY LIMITED

150 Simcoe Street, London, Ontario, N6A 4M3.

Production Research Department

Admin. Contact: D.C. Chunn, Technical Services Manager,

Tel: (519) 673-5223.

Scientific Contact: G.G. Stewart, Director, Research and Quality Control, Tel: (519) 673-5326.

Personnel: Total is 29 of which 24 are scientists and engineers.

Activities: Hop studies; beer staling; genetic manipulation; antibacterial activity in yeasts; biochemistry and genetics of starch and pentose utilizing yeast; extracellular protease activity in yeast; malt development; anaerobic digestion; microbiological stabilization of beer.

Facilities: Micro manipulator; mass spectrometer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

LABORATOIRES CHOISY LIMITEE

390 St-Laurent, Louiseville, Québec, J5V 2L7.

R&D Department

Contact: François Legendre, Vice-President,

Tel: (819) 296-2422.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Surfactants for cleaning or disinfecting; formulations for specialties chemicals; formulations for specialties surface coating.

Facilities: Pilot plant for surfactants; microbiology lab.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

LAKE CITY TECHNICAL PRODUCTS INC.

5-1952 Spall Road, Kelowna, B.C., V1Y 4R1.

Research Unit

Contact: J. Scheligen, President, Tel: (604) 860-2882.

Personnel: Total is 1 of which none are scientists and engineers.

Activities: Fruit quality test techniques; precision position measurement; real world interfacing to computers; data manipulation and algorithms.

Current or Potential Work: non R&D services for government, R&D for private sector, non R&D services for private sector.

LAKEFIELD RESEARCH, DIV. OF FALCONBRIDGE LTD

P.O. Box 40, Commerce Ct W., Toronto, Ontario, M5L 1B4.

Research Unit

185 Concession St., P.O. Box 430, Lakefield, Ontario, K0L 2H0.

Contact: D.M. Wyslouzil, Manager, Tel: (705) 652-3341.

Personnel: Total is 60 of which 12 are scientists and engineers.

Activities: Analytical services, classical and instrumental methods; fire assaying - mineralogical and petrographic studies; grinding investigations - physical separations (gravity, magnetic or electric); flotation studies; complete gold recovery plant-cyanidation, CIP, desorption, zinc pptn, electro-winning, and heap leaching; fluid-bed and hearth roasting; leaching at atmospheric pressure or elevated pressures and temperatures; process and flowsheet development; reagent development.

Facilities: XRF; XRD; integrated pilot plant for grinding, flotation, CIP.

Current or Potential Work: R&D for private sector.

LAKESIDE RESEARCH - DIV OF LAKESIDE FEEDERS LTD

Box 800, Brooks, Alberta, T0J 0J0.

Lakeside Research

Contact: Mr. R.E. Grimson, Manager, Tel: (403) 362-3326.

Personnel: Total is 7 of which 2 are scientists and engineers.

Activities: Animal and meat research.

Facilities: Feed, soil and water laboratory; animal research facilities.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

LALLEMAND INC.

1620 Préfontaine, Montréal, Québec, H1W 2N8.

Research Unit

Admin. Contact: Ginette Labrie, Contrôleur,

Tel: (514) 522-2133.

Scientific Contact: Jacques Goulet, Directeur scientifique,

Tel: (514) 522-2133.

Personnel: Total is 9 of which 9 are scientists and engineers.

Activities: Yeast fermentation; bacterial fermentation; process engineering; drying over a fluidized bed.

Facilities: Fermentors; dryers; centrifuge; GLC chromatography.

Current or Potential Work: self or parent, R&D for government.

Note: Descriptive text has been translated from French.

LAMONTAGNE GEOPHYSICS LIMITED

49 Spadina Ave. Suite 306, Toronto, Ontario, M5V 2J1.

Research Unit

49 Spadina Ave, Suite 306, Toronto, Ontario, M5V 2J1.

Contact: Y. Lamontagne, President, Tel: (416) 596-1772.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Geophysical instrumentation: The development of wideband transient electromagnetic instruments for mineral exploration and depth sounding. Main recent topics are borehole measurement technology using fibre optics and microcomputer controllers. Geophysical data processing: numerical techniques for removing source effects from EM geophysical data and for the inversion of data into a geophysical model of the earth.

Facilities: Microcomputer development systems; high pressure testing apparatus; fibre optic instrumentation.
Current or Potential Work: self or parent, R&D for government, R&D for private sector.

LAVO LIMITEE

1880, rue Chambly, Montréal, Québec, H1W 3J2.

Research Unit

Contact: M. Lazar Bernstein, Chimiste,
Tel: (514) 526-7783.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Cleaning products: bleach, fabric softeners, liquid detergents and window cleaners.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

LAWSON FLEXIBLE PACKAGING

10 Akron Road, Toronto, Ontario, M8W 1T2.

Lawson Flexible Packaging Technical Development Group

Contact: Dr. Don Iwacha, Technical Manager,
Tel: (416) 259-3731.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Development of specific flexible packaging structures to be used commercially by Lawson Flexible. These flexible packaging structures are new to Lawson Flexible and may be new to the industry as a whole. Development consists of preparatory laboratory work followed by the evaluation of products and processes on production equipment under the Technical Development Group supervision.

Facilities: Gas chromatography; infrared spectroscopy; moisture vapour transmission.

Current or Potential Work: self or parent.

LEPAGE'S LIMITED

50 West Drive, Bramalea, Ontario, L6T 2J4.

R&D Laboratory, LePages's Ltd

Admin. Contact: Julio Fernandez, Vice-President,
Technical, Tel: (416) 459-1140.

Scientific Contact: Dr. A. Clark, R&D Scientist,
Tel: (416) 459-1140.

Personnel: Total is 8 of which 4 are scientists and engineers.

Activities: Adhesion, polymers, coatings.

Facilities: FTIR; weatherometer; salt spray; microscope dark/bright field; stress/strain: Olsen universal tester; Instron.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

LIMAGRAIN CANADA INC.

1514 ave Docteur Penfield, Montréal, Québec, H3G 1X5.

Research Unit

Glanworth, Ontario, N0L 1L0.

Admin. Contact: Georges T. Robic, , Tel: (514) 934-0272.

Scientific Contact: Philippe Dupont, , Tel: (519) 644-0403.

Personnel: 3 scientists and engineers.

Activities: Use of test plots for seed corn in Ontario and several other Canadian provinces to develop hybrids capable of producing high-performance seed corn, adapted to the Canadian climate.

Facilities: Agricultural machinery such as tractors and seed drills; storage and other buildings.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

LINEAR TECHNOLOGY INC.

P.O. Box 489, Station A (970 Fraser Drive), Burlington, Ontario, L7R 3Y3.

Integrated Circuit Technology and Product R&D

P.O. Box 489, Station A, Burlington, Ontario, L7R 3Y3.

Contact: G.C. Salter, Vice-President, R&D,
Tel: (416) 632-2996.

Personnel: Total is 26 of which 13 are scientists and engineers.

Activities: Computer aided design of integrated circuits; photolithography and masking; solid state diffusion; epitaxial growth of silicon; miniature packaging.

Facilities: CAD workstation; mask fabrication equipment; device processing equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

LION INDUSTRIES LTD

35 Trotter Bay, Winnipeg, Manitoba, R3T 3R3.

Research Unit

Contact: J.R. Lion, P.Eng., General Manager,
Tel: (204) 475-8393.

Personnel: Total is 7 of which 4 are scientists and engineers.

Activities: Electrical and electronic products; solar energy products.

Facilities: General lab equipment.

Current or Potential Work: self or parent, R&D for government.

LOEWEN MILLWORK - DIV. OF C.P. LOEWEN ENTERPRISES LTD

P.O. Box 2260, Steinbach, Manitoba, R0A 2A0.

Loewen Millwork - Div. of C.P. Loewen Ent. Ltd.

Box 2260, Steinbach, Manitoba, R0A 2A0.

Admin. Contact: Charles Loewen, Plant Manager,
Tel: (204) 326-6446.

Scientific Contact: John Letkeman, Research & Development Manager, Tel: (204) 326-6446.

Personnel: Total is 4 of which 1 is a scientist or engineer.

Activities: Design and testing of window and door units for residential construction.

Facilities: Test equipment for air and water leakage and thermal performance.

Current or Potential Work: self or parent.

LOGGING DEVELOPMENT CORPORATION

5858 Côte-des-Neiges, Suite 215, Montréal, Québec, H3S 1Z1.

Research Unit

Contact: D.D. Hamilton, President, Tel: (514) 739-1791.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Forest harvesting and bioenergy.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

LONDON LABORATORIES LIMITED

1025 Hargrieve Road, London, Ontario, N6E 1P7.

London Laboratories Ltd

Contact: Dr. J.F. Soltys, Manager, Tel: (519) 681-2600.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Research is carried out exclusively in the field of electroless plating of glass and plastics, mostly on the chemistry of silver and copper. Products resulting from this research include improvements in the manufacture of glass mirrors, thermos bottles, christmas ornaments, reflector light bulbs, solar reflectors, video and audio digital discs.

Facilities: Confidential.

Current or Potential Work: self or parent, R&D for private sector.

LONG MANUFACTURING LTD.

656 Kerr Street, Oakville, Ontario, L6K 3E4.

Advanced Engineering

Admin. Contact: R. Bamsey, Chief Engineer,
Tel: (416) 845-4291.

Scientific Contact: B. Cheadle, Sr. Metallurgical Engineer,
Tel: (416) 845-4291.

Personnel: Total is 9 of which 5 are scientists and engineers.

Activities: Development studies related to joining metals with solders, and brazing alloys. The activities are concerned mostly with copper, brass, aluminum for the development of heat exchangers in the field of automotive vehicles and industrial vehicles.

Facilities: Circulation stands for corrosion tests; salt spray corrosion chambers; tensile test machine; 2 - vibration test stands; 3 - heat transfer calorimeters for performance tests of product.

Current or Potential Work: self or parent, R&D for private sector.

LUCAS INDUSTRIES CDA LTD, AEROSPACE DIV.

5595 Royalmount Avenue, Montréal, Québec, H4P 1J9.

Lucas Industries Canada Limited, Aerospace Division

Admin. Contact: M. Houghton, Contract Administrator,
Tel: (514) 735-1536.

Scientific Contact: R.F. Moore, Manager, Operations
Canada, Tel: (514) 735-1536.

Personnel: Total is 12 of which 5 are scientists and engineers.

Activities: To establish and improve the performance of electro-mechanical, hydro-mechanical and pneumatic components and systems. The effect of a wide range of adverse operating conditions on performance parameters can be investigated. Primary field is flight systems.

Facilities: High pressure fuel and hydraulic systems; high speed electrical or hydraulic drive systems.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

LUMONICS INC. - KANATA OPERATIONS

105 Schneider Road, Kanata, Ontario, K2K 1Y3.

Lumonics Inc (Kanata Operations)

Admin. Contact: William E. Steadman, Vice-President and General Manager (Kanata), Tel: (613) 592-1460.

Scientific Contact: Dr. John Nilson, Director of Research,
Tel: (613) 592-1460.

Personnel: Total is 42 of which 10 are scientists and engineers.

Activities: Applied research on lasers and laser systems. Development of lasers and laser systems. Types of lasers include - pulsed gas lasers (CO2 and excimer) and pulsed dye lasers. Types of systems include scientific, industrial (LaserMark (R)), medical, and customer support for J K Lasers Ltd. YAG laser systems. Other expertise includes high voltage technology.

Facilities: Full range of optical diagnostic equipment; full range of electronic diagnostic equipment.

Current or Potential Work: self or parent, R&D for government.

LYNN & JOHNSTON LABS INC.

9420 Côte De Liesse, Lachine, Québec, H8T 1A1.

Research Section

Contact: J.D. Fenwick, General Manager,

Tel: (514) 631-1837.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Research is conducted under contract to Agriculture Canada on the elimination rate and metabolism of drugs which have been administered to racehorses at Agriculture Canada owned research centre.

Facilities: GC/Mass Spec; GC; LC.

Current or Potential Work: R&D for government.

M S INDUSTRIAL REFRIGERATION, A DIV. OF MALNAR IND. LTD

1395 Niakwa Road, Winnipeg, Manitoba, R2J 3T3.

Refrigeration Equipment Engineering Group

Contact: Dan Malnar, President, Tel: (204) 257-0116.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: This unit specializes in the design of new types of industrial refrigeration equipment. Current projects include: development of a new type of refrigeration evaporator, development of a new type of air cooled condensor, development of a new type of water cooled condensor, research into a theory for using pumps instead of compressors in the refrigeration cycle, research into the movement of two phase fluids in a condensor to increase heat transfer.

Facilities: Calorimeter chamber (controlled environment and operating conditions test chamber).

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

M.J. O'CONNOR & ASSOCIATES LTD

101, 4712-13th Street N.E., Calgary, Alberta, T2E 6P1.

Research Unit

Admin. Contact: M.J. O'Connor, President,
Tel: (403) 250-9790.

Scientific Contact: J.G. Agar, Principal,
Tel: (403) 250-9790.

Personnel: Total is 18 of which 10 are scientists and engineers.

Activities: Elevated temperature geotechnics; geomechanics; oil sand geotechnics; oil spill cleanup; hydrogeology; environmental engineering; geotechnical engineering; rock avalanches; marine geophysics; arctic engineering; engineering geology; materials testing.

Facilities: Oil spill model testing apparatus; permeameters; compression testing for soils; compression testing of oil sands; computer - specialized software.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

M2S ELECTRONIQUE LTEE

1375 Charest ouest, local 31, Québec, Québec, G1N 2E7.

Research Unit

Admin. Contact: Bertrand Saucier, Directeur, bureau d'études, Tel: (418) 688-9000.

Scientific Contact: André Marchand, Directeur technique,
Tel: (418) 688-9000.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Development and improvement of modules and systems in telecommunications (radio interfaces, radio commands, paging systems, systems for a mobile radio network, encoders, decoders and so on) and control (vehicle detectors, telemetry systems and so on).

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Note: Descriptive text has been translated from French.

MACDONALD, DETTWILER AND ASSOCIATES LTD

3751 Shell Road, Richmond, B.C., V6X 2Z9.

Research Unit

Admin. Contact: John W. Pitts, President & Chief Executive Officer, Tel: (604) 278-3411.

Scientific Contact: Dr. Denis J. Connor, Vice-President - Corporate Marketing, Tel: (604) 278-3411.

Personnel: Total is 233 of which 142 are scientists and engineers.

Activities: MDA is pursuing a wide variety of R&D activities, including the following: advanced image analysis and classification of remotely sensed image data; digital processing of Synthetic Aperture Radar (SAR) image data; geometric correction of and geocoding of remotely sensed digital images; Digital Terrain Maps (DTM) produced from digital remotely sensed imagery; airborne multispectral digital imaging; meteorological satellite image data systems, and weather radar research; expert systems research, digital film recorder development; high speed signal processing.

Current or Potential Work: self or parent, R&D for government.

MACMILLAN BLOEDEL LIMITED

1075 West Georgia Street, Vancouver, B.C., V6E 3R9.

MacMillan Bloedel Research

3350 East Broadway, Vancouver, B.C., V5M 4E6.

Admin. Contact: G.E. Plant, Manager, Administration, Tel: (604) 254-5151.

Scientific Contact: Dr. O.L. Forgacs, Sr. Vice-President, Tel: (604) 661-8499.

Personnel: Total is 113 of which 52 are scientists and engineers.

Activities: Wood harvesting; sawmilling; reconstituted wood products; high yield pulping; newsprint and groundwood specialty papers; containerboard; corrosion abatement.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Land Use Planning Advisory Team

65 Front Street, Nanaimo, B.C., V3L 4Y7.

Contact: W. Bourgeois, Manager, LUPAT, Tel: (604) 753-1112.

Personnel: Total is 23 of which 12 are scientists and engineers.

Activities: Silviculture; growth and yield; non-resource research (fish and wildlife).

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MACTAC CANADA

100 Kennedy Rd. S., Brampton, Ontario, L6W 3E8.

Mactac Canada, Technical Dept.

Contact: Dr. B. Yawney, Vice-President, Technical, Tel: (416) 459-3100.

Personnel: Total is 9 of which 3 are scientists and engineers.

Activities: Development and/or selection of pressure-sensitive adhesive, silicone release, anchorage promoting, barrier, etc. Coatings and selection of paper, film, foil, foam, etc. Web stocks for manufacture of graphic arts and industrial laminates or coated products.

Facilities: Sundry paper, film and foil test equipment; instron physical tester; infrared spectrometer; viscosimeters.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MAGIC PANTRY FOODS INC.

2301 Royal Windsor Drive, Mississauga, Ontario, L5J 1K5.

Research Unit

26 Burford Road, Hamilton, Ontario, L8E 3C7.

Admin. Contact: Mr. B. Rees, Vice President, Tel: (416) 561-5322.

Scientific Contact: Nina E. Goodrich, Technical Director, Tel: (416) 561-5322.

Personnel: Total is 13 of which 12 are scientists and engineers.

Activities: 1. Thermal processing characteristics of steam air retorting systems. 2. Thermal processing characteristics of thin profile flexible and semi-rigid container. packaging development aspects of thermally stabilised foods packed in flexible and semi-rigid container.

Facilities: Lagarde steam-air retorts and ancillary control mechanisms; various flexible and semi-rigid container sealing machines; various packaging material testing machines.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MARINE LOBSTER FARMS LTD

P.O. Box 1028, Charlottetown, P.E.I., C1A 7M4.

Research Unit

Water Street, Victoria, P.E.I., C0A 2G0.

Admin. Contact: Hugh Paton, President, Tel: (902) 894-5161.

Scientific Contact: Edgar Mason, General Manager, Tel: (902) 658-2018.

Personnel: Total is 10 of which 4 are scientists and engineers.

Activities: Development of apparatus and method for holding and cultivating aquatic crustaceans. Recirculating, biological, seawater systems. Seawater procurement systems. Lobster and salmonid nutrition. Disease prevention.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

MARK HOT INC.

400 Place Trans Canada, Longueuil, Québec, J4G 1N9.

Département de recherche et développement

Admin. Contact: Jean Pierre Giguère, Vice-President, Engineering, Tel: (514) 670-4050.

Scientific Contact: Jean Courchesne, Director, Research and Development, Tel: (514) 670-4050.

Personnel: Total is 15 of which 7 are scientists and engineers.

Activities: HVAC research laboratory: static and dynamic structure analysis; acoustics and vibration; measurement of air and water flow rates; air conditioning; and refrigeration.

Facilities: Two echo chambers (acoustics); two conduit rooms (for testing fans, coils, heat, water and air pumps, and so on); natural convection room that meets IBR standards; and temperature-controlled (6 C to 70 C) water loop.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Note: Descriptive text has been translated from French.

MARSHALL MACKLIN MONAGHAN LIMITED

275 Duncan Mill Rd, Don Mills, City of North York, Ontario, M3B 2Y1.

Research Unit

275 Duncan Mill Road,, Don Mills, City of North York, Ontario, M3B 2Y1.

Admin. Contact: Mr. S.J. Statham, V-President, Surveying and Mapping Division, Tel: (416) 449-2500.

Scientific Contact: Mr. W. Van Halm, Department

Manager, Photogrammetric Services, Tel: (416) 449-2500.

Personnel: Total is 10 of which 4 are scientists and engineers.

Activities: ARC/INFO - a topologically structured geographic information system used at Marshall Macklin Monaghan Limited is being enhanced in two distinct areas: 1) the inter-active data entry and display modules are being optimized 2) linkages have been developed to other sources of digital data i.e. TOPOS and Intergraph's IGDS through SIF. TOPOS a survey data collection and coordinate management program developed at MMM has been released for sale on DEC equipment, and is currently running on the DEC 350 personal computer. The IBM PC version will be available shortly.

Facilities: None other than computers and plotters, DEC 11-780; PDP 11-44; Prime; Wild TA2 Plotter; Calcomp 960 Plotter; various photogrammetric instruments.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MARTEC LIMITED

5670 Spring Garden Road, Halifax, N.S., B3J 1H6.

Research Unit

Contact: Dr. A.Y. McLean, President, Tel: (902) 425-5101.

Personnel: Total is 22 of which 18 are scientists and engineers.

Activities: Structural analysis: development and application of methods of stress and vibration analysis for ship-type structures. Methods involve advanced finite-element techniques. Ocean engineering: computer modelling and software development for use in analysis and assessment of environmental loads and other influences on offshore structures. Environmental assessment: development of techniques and procedures to measure and predict environmental effects.

Facilities: Computing equipment; oceanographic measurement equipment; biological sampling equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MASSEY-FERGUSON LIMITED

595 Bay Street, Toronto, Ontario, M5G 2C3.

Toronto Engineering Centre

954 King St. W., Toronto, Ontario, M6K 1E5.

Admin. Contact: Philip Petz, Manager, General Services and Administration, Tel: (416) 593-3685.

Scientific Contact: Robert Doll, Director, Engineering, Tel: (416) 593-3253.

Personnel: Total is 150 of which 45 are scientists and engineers.

Activities: Design, prototype and testing of new products for the agricultural machinery industry. Development of advanced electronic control systems for the company's products.

Facilities: Computer aided design; computer aided engineering; advanced mobile test equipment.

Current or Potential Work: self or parent, non R&D services for private sector.

MATERIAUX DE CONSTRUCTION CANADA LTEE

10,500 Côte de Liesse, Ste 200, Lachine, Québec, H8T 3E3.

Technology Centre

0244 St. Patrick Street, LaSalle, Québec, H8R 1R8.

Contact: S.A. McIntosh, Manager, Tel: (514) 364-0161.

Personnel: Total is 40 of which 20 are scientists and engineers.

Activities: 1) Materials product and process R&D. Product applications technology 2) Roofing - residential and industrial; insulation; vinyl siding; wood fibreboard; phenolic foams; asphaltic materials; vinyl compounds.

Current or Potential Work: self or parent.

MATERIEL INDUSTRIEL LTEE (LE)

325, Grande Caroline, Rougemont, Québec, J0L 1M0.

Research Unit

Admin. Contact: M. Jean Sornin, Vice-président,

Tel: (514) 878-9675.

Scientific Contact: Maurice Beauchamp, Ingénieur jr,

Tel: (514) 878-9675.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Gas burners (natural gas or propane); combustion; substitution of materials; automation.

Facilities: Combustion-type gas analyzer; programmable controllers; thermocouples; Apple II computer.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

MATROX ELECTRONIC SYSTEMS LTD

5800 Andover Ave, Town of Mount Royal, Quebec, H4T 1H4.

Research Unit

Admin. Contact: Lorne Trottier, Vice-President,

Tel: (514) 685-2630.

Scientific Contact: Vesa Koponen, Manager, R&D,

Tel: (514) 685-2630.

Personnel: Total is 67 of which 38 are scientists and engineers.

Activities: Industrial and commercial electronics equipment specializing in high resolution graphics displays, alphanumeric displays, micro-computer systems and video disc data retrieval systems. The product line ranges from board and module level product to terminals and intelligent work stations.

Facilities: VAX computer; logic analyzers; FCC radiation measurement equipments; in-circuit emulators.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MDS HEALTH GROUP LIMITED

55 Glen Cameron Road, # 202, Thornhill, Ontario, L3T 1P2.

Sciex Division

Admin. Contact: W.M. Robbins, Vice-President, Finance,

Tel: (416) 881-4646.

Scientific Contact: W.R. Davidson, Director, Research & Development, Tel: (416) 881-4646.

Personnel: Total is 15 of which 13 are scientists and engineers.

Activities: New product development - instrumentation for trace chemical analysis. Applications and methods development in the areas of: tandem mass spectrometry (MS/MS); inductively coupled plasma mass spectrometry (ICP/MS). Additions and modifications to existing instrumentation - TAGA 6000 MS/MS and ELAN 250 ICP/MS. Contract R&D in trace analysis in the environmental, biomedical, semi-conductor, polymer characterization, public security, building products, occupational health, and geological fields.

Facilities: TAGA 6000 MS/MS; ELAN 250 ICP/MS.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MDS Laboratories

30 Meridian Road, Rexdale, Ontario, M9W 4Z9.

Admin. Contact: Mr. E.K. Rygiel, Vice-President,
Corporate Development, Tel: (416) 675-7661.

Scientific Contact: Dr. J.C. Nixon, Medical Director,
Tel: (416) 675-7661.

Personnel: Total is 3 of which 2 are scientists and
engineers.

Activities: Development of immunochemical procedures
for the detection of N.gonorrhoeae using monoclonal
antibodies.

Current or Potential Work: self or parent.

MEC-FAB INC./SERVO-ROBOT INC.

1401 Graham Bell, Boucherville, Québec, J4B 6A1.

Paper Mills/Welding Robots

Admin. Contact: R. Jim Hamel, President,
Tel: (514) 655-7910.

Scientific Contact: Ken M. Smith, Manager of Eng.,
Tel: (514) 655-7910.

Personnel: Total is 3 of which 3 are scientists and
engineers.

Activities: Machinery and equipment for pulp and paper
mills. Field of specialization: net end equipment.
Welding robots with infra-red sensing and searching
capabilities.

Facilities: Screens; Headbox; slice lip; welding robots;
stainless steel clad rolls; pulleys; agitators.

Current or Potential Work: self or parent, R&D for
government, non R&D services for government, R&D
for private sector, non R&D services for private sector.

MEMOTEC DATA INC.

4940 Fisher St., St. Laurent, Québec, H4T 1J5.

Research Unit

Contact: Mr. G. Topalidis, Director, Product Development,
Tel: (514) 738-4781.

Personnel: Total is 17 of which 11 are scientists and
engineers.

Activities: Data communication - development of
communication processors with specific emphasis on
X.25.

Facilities: Test equipment; computer equipment.

Current or Potential Work: self or parent.

MERCK FROSST CANADA INC.

16711 Trans-Canada Highway, Kirkland, Québec, H9H 3L1.

Merck Frosst Canada Inc. Research Department

Admin. Contact: Dr. C.H. Gleason, Director, Research
Administration and Planning, Tel: (514) 695-7920.

Scientific Contact: Dr. J. Rokach, Executive Director of
Research, Tel: (514) 695-7920.

Personnel: Total is 89 of which 64 are scientists and
engineers.

Activities: The objective of the R&D is the discovery and
development of novel drug therapy. The major current
area of interest is the metabolites of arachidonic acid
and their roles in various disease states, especially
asthma, allergy, and inflammation. Principal fields of
specialization are Medicinal Chemistry, Pharmacology,
Biochemistry, Pharmacy and Medicine.

Facilities: Bruker 250 MHz Resolution FT Nuclear
Magnetic Resonance (NMR) Instrument.

Current or Potential Work: self or parent.

METREX INSTRUMENTS LIMITED

201 Wilkinson Road, Brampton, Ontario, L6T 4M2.

Metrex Instruments Ltd

Admin. Contact: Mrs. E. Singer, Administrator,
Tel: (416) 453-1110.

Scientific Contact: Dr. J. Motycka, President,
Tel: (416) 453-1110.

Personnel: Total is 6 of which 4 are scientists and
engineers.

Activities: Air pollution monitoring devices.

Facilities: Electronic instruments; computer.

Current or Potential Work: self or parent, R&D for
government, non R&D services for government, non
R&D services for private sector.

MICRO CONTROLE INC.

358, Jackson, Québec, Québec, G1N 4C5.

Research Unit

Admin. Contact: Raymond Gilbert, Directeur général,
Tel: (418) 681-0216.

Scientific Contact: Serge Mathieu, Directeur, Recherche et
développement, Tel: (418) 681-0216.

Personnel: Total is 4 of which 2 are scientists and
engineers.

Activities: Programmable electronic clocks; electronic
master clock; lighting control systems; power factor
regulators; Var regulators; load controllers; energy
management systems; dual energy control systems; and
graphic recorders.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

MICROTEL LTD

108-4664 Lougheed Hwy, Burnaby, B.C., V5C 5T5.

Microtel Pacific Research Ltd

8999 Nelson Way, Burnaby, B.C., V5A 4B5.

Admin. Contact: Mr. K.W. Coleman, Controller,
Tel: (604) 294-1471.

Scientific Contact: J.S. Myles, Vice-President, Product
Development, Tel: (604) 294-1471.

Personnel: Total is 315 of which 156 are scientists and
engineers.

Activities: Telecommunications R and D specializing in -
Telephone Switching, Terrestrial Radio, Satellite
Communications, Digital Radio, Frequency Division
Multiplex, VLSI Circuit Development and Systems
Development.

Facilities: VLSI, special purpose test equipment, and
computer facility.

Current or Potential Work: self or parent, R&D for
government, R&D for private sector.

Microtel Learning Services

1795 Willingdon Ave, Burnaby, B.C., V5C 5J2.

Admin. Contact: Robert A.M. Ascroft, Support Services
Manager, Education Products and Services,
Tel: (604) 293-3689.

Scientific Contact: Arch McFarlane, Production Manager,
Education Products and Services, Tel: (604) 293-3666.

Personnel: Total is 16 of which 7 are scientists and
engineers.

Activities: Computer-based training and training
technology.

Facilities: Computers; digitizers.

Current or Potential Work: self or parent.

Viscount Industries Ltd

105 East 69th Ave, Vancouver, B.C., V5X 2W9.

Admin. Contact: Mr. A.J. Gerrebos, General Manager,
Tel: (604) 327-9446.

Scientific Contact: Mr. W. McNab, Engineering Manager,
Tel: (604) 327-9446.

Personnel: Total is 6 of which 4 are scientists and
engineers.

Activities: Research and development of telephone
industry test equipment.

Current or Potential Work: self or parent.

MICROTRONIX SYSTEMS LTD

120 Bessemer Road, London, Ontario, N6E 1R2.

Part of Microtronix Systems Ltd

Contact: Eric E. Auzins, President, Tel: (519) 681-3430.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Specializes in developing testing equipment for the telephone industry. Both hardware and software R&D is done.

Facilities: Oscilloscopes, meters, etc. for hardware development; microcomputer development system.

Current or Potential Work: self or parent.

MILLER COMMUNICATIONS SYSTEMS LTD

300 Legget Drive, Kanata, Ontario, K2K 1Y5.

Satellite Communications

Admin. Contact: Rami Acouri, Manager of Operations, Tel: (613) 592-3020.

Scientific Contact: Brian Mazur, Manager of Satellite Communications, Tel: (613) 592-3020.

Personnel: Total is 10 of which 10 are scientists and engineers.

Activities: Study satellite communication problems.

Facilities: Oscilloscopes and signal generators; computers; spectrum analysis equipment; noise meters.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Signal Processing

Admin. Contact: Rami Acouri, Manager of Operations, Tel: (613) 592-3020.

Scientific Contact: Stuart Crozier, Manager of Signal, Tel: (613) 592-3020.

Personnel: Total is 15 of which 15 are scientists and engineers.

Activities: Identification and processing of H.F. signals.

Facilities: Oscilloscopes and signal generators; computers; spectrum analysis equipment; noise meters.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Monitoring Group

Admin. Contact: Rami Acouri, Manager of Operations, Tel: (613) 592-3020.

Scientific Contact: John Bodie, Monitoring Manager, Tel: (613) 592-3020.

Personnel: Total is 10 of which 10 are scientists and engineers.

Activities: Monitoring of signals - development of hardware to pick-up signals in high frequency spectrum.

Facilities: Oscilloscopes and signal generators; computers; spectrum analysis equipment; noise meters.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Telemetry Group

Admin. Contact: Rami Acouri, Manager of Operations, Tel: (613) 592-3020.

Scientific Contact: Terry Rubino, Telemetry Manager, Tel: (613) 592-3020.

Personnel: Total is 10 of which 10 are scientists and engineers.

Activities: Transmission of data and information via radar.

Facilities: Oscilloscopes and signal generators; computers; spectrum analysis equipment; noise meters.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MILLER TECHNOLOGY INC.

1839 Seymour St., North Bay, Ontario, P1B 8G4.

Research Unit

Contact: Ron Miller, President, Tel: (705) 476-4500.

Personnel: Total is 8 of which 6 are scientists and engineers.

Activities: Mobile mining, construction, forestry equipment; hydraulic design and testing; forensic engineering.

Facilities: Thermographic analysis; ultrasonic cleaning; materials testing, microscopic; hydrocarbon identifications; non-destructive testing; hardness testing.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MINAS SEED CO-OPERATIVE LTD

Box 130, Canning, Nova Scotia, B0P 1H0.

Research Unit

Admin. Contact: Mrs. M. Power, Accountant, Tel: (902) 582-3346.

Scientific Contact: J.E. Peill, President, Tel: (902) 582-3346.

Personnel: Total is 5 of which 1 is a scientist or engineer.

Activities: I.C.M. Integrated Cereal Management.

Facilities: Tramline seeders; Tramline sprayers; Tramline fertilizer spreaders.

Current or Potential Work: self or parent, R&D for government.

MINE WASTE RECLAMATION LTD

565 Massey Road, Guelph, Ontario, N1H 6R1.

Research Unit

Contact: Dr. E.M. Watkin, President, Tel: (519) 823-2060.

Personnel: Total is 4 of which 1 is a scientist or engineer.

Activities: Reclamation through vegetation of mining and industrial wastes; utilization of wastes as amendments for contaminated soils. Development of dust suppressants for control of fugitive dust on waste disposal areas, railcars and stockpiles.

Facilities: Large environmentally controlled plant growth facility.

Current or Potential Work: self or parent, non R&D services for government, R&D for private sector, non R&D services for private sector.

MINMET SCIENTIFIC LTD

P.O. Box 921, Station K, Toronto, Ontario, M4P 2H2.

Research Unit

Contact: Claudia Gasparrini, President.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: The type of R&D involves mostly the use of mineralogy for the location of problems which develop during the process of extraction. Applied mineralogy is also used in mineral exploration and in feasibility studies of ores.

Facilities: Leitz ore microscope.

Current or Potential Work: self or parent, R&D for private sector.

MITEL CORP., SEMICONDUCTOR DIVISION

360 Leggett Dr. PO Box 13320, Kanata, Ontario, K2K 1X5.

Wafer Fabrication Process R&D

19 Boul. L'Aéroport, Bromont, Québec, J0E 1L0.

Contact: Jack Morris, Director, R&D, Tel: (514) 534-2321.

Personnel: Total is 30 of which 10 are scientists and engineers.

Activities: R&D into novel methods of making CMOS semiconductor devices, especially devices with minimum feature sizes of two micrometers and smaller. This involves use of advanced photolithographic equipment and advanced reactive ion etch techniques. Also, new photoresist techniques are explored and methods of planarizing microtopographies are sought.

Facilities: Reactive ion etch equipment for aluminum etching.
Current or Potential Work: self or parent.

MOLI ENERGY LIMITED

3958 Myrtle St., Burnaby, B.C., V5C 4G2.

Research Unit

Contact: Dr. J.A. Stiles, General Manager,
Tel: (604) 437-6927.

Personnel: Total is 35 of which 11 are scientists and engineers.

Activities: Lithium battery R&D - materials research, battery development, battery electrochemistry.

Facilities: Inert atmosphere glove boxes; scanning electron microscope; FT infrared spectrometer; gas chromatograph; atomic absorption spectrophotometer; microcalorimeter.

Current or Potential Work: self or parent, R&D for government.

MOLSON BREWERIES OF CANADA LTD

1555 Notre Dame St. E., Montréal, Québec, H2L 2R5.

Molson Breweries of Canada Ltd, Technical Centre

2486 Dunwin Drive, Mississauga, Ontario, L5L 1J9.

Admin. Contact: Mr. David W. Hysert, Director; Technical Services, Tel: (416) 828-1786.

Scientific Contact: Mr. Joris E.A. Van Gheluwe, Manager; Technical Development, Tel: (416) 828-1786.

Personnel: Total is 22 of which 11 are scientists and engineers.

Activities: Our R&D effort can be categorized broadly as brewing science; Our primary objectives are 1) Improvement of physical and flavour stability of beer, 2) Process and productivity development, 3) Product development, 4) Raw materials investigations including barley, malt, hops, 5) Development of analytical and microbiological methods for Quality Control, 6) Development of fermentation technology, 7) Production-related problem solving.

Facilities: Chemical/analytical instrumentation including uv, ir, nmr, gc, hplc, tlc; pilot brewery (26L); two New Brunswick fermenters; equipment for genetic engineering; yeast culture collection; sensory evaluation facilities.

Current or Potential Work: self or parent.

MONITEQ LTD.

630 Rivermede Road, Concord, Ontario, L4K 2H7.

R&D Contract Services

Contact: Dr. S.C. Jain, Vice-President, R&D,
Tel: (416) 669-5334.

Personnel: Total is 30 of which 15 are scientists and engineers.

Activities: Contract services: (a) electro optical sensor development, and (b) image analysis and remote sensing data processing; (c) bathymetry and mapping; (d) atmospheric and water radiative transfer; (e) conceptual design studies; (f) field data acquisition for airborne water pollution and spectral data analysis; (g) resource and environmental monitoring.

Facilities: Optical sources; optical table; vacuum facility.

Current or Potential Work: R&D for government, R&D for private sector.

MONO RES LABORATORIES LTD

#300, Hwy #7 West, Brampton, Ontario, L6V 2L6.

Mono Research Laboratories Ltd

Contact: Nigel H.K. Armstrong, President,
Tel: (416) 454-4000.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Particle characterization: emphasis is on the detection, sizing and characterization of particulates in air, liquids or in powder form covering the size range 5 nanometers thru 9000 micrometers. Complete systems, including special sample handling systems, have been designed and manufactured utilizing basic particle detection equipment manufactured by Pacific Scientific, California. In addition, application development is undertaken on measurement of Zeta Potential utilising proprietary equipment manufactured in the United Kingdom. Special applications have been developed or are in the process of development for many industries including hydraulics, chemical, water treatment and oil industries.

Facilities: Complete electronic service facilities; small mechanical workshop.

MONSERCOR LIMITED

6620 Kitimat Road, Mississauga, Ontario, L5N 2B8.

Research Unit

Contact: George Gordon, Vice President,
Tel: (416) 821-1033.

Personnel: Total is 14 of which 10 are scientists and engineers.

Activities: Nuclear radiation safety studies; environmental dispersion modeling techniques; occupational hygiene studies; structural analysis; thermo dynamics; seismic and vibration analysis.

Facilities: Sensitive radiation detection equipment; VAX computer with special software; seismic "shaker" table; simulators; high impact drop test rig; laboratory.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MORGAN SCHAFFER CORPORATION

5110 De Courtrai Ave, Montréal, Québec, H3W 1A7.

Research Unit

5110 De Courtrai Avenue, Montréal, Québec, H3W 1A7.

Admin. Contact: Robert Schaffer, Ph.D., Vice-President,
Tel: (514) 739-1967.

Scientific Contact: James E. Morgan, Ph.D., President,
Tel: (514) 739-1967.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Analysis of dissolved gases in transformer oil - development of instrumentation.

Facilities: Mass spectrometer; gas chromatographs; water analyzer.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, non R&D services for private sector.

MORRIS INDUSTRIES LTD

1527 Columbia Street, North Vancouver, B.C., V7J 1A3.

Research Unit

Contact: David Morris, President, Tel: (604) 986-2189.

Personnel: Total is 6 of which 2 are scientists and engineers.

Activities: Oil pollution control equipment; oil skimmers and booms.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MORRIS MAGNETICS

R.R. #2, Lucan, Ontario, N0M 2J0.

Research Unit

Admin. Contact: W.A. Morris B.Sc., Ph.D., Proprietor,
Tel: (519) 227-1106.

Scientific Contact: S.J. Balch M.BSc., Research Scientist,
Tel: (519) 227-4142.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Physical properties of materials including: magnetic properties, susceptibility, remanence, hysteresis, paleomagnetism, archeomagnetism; thermal conductivity, porosity, permeability, density; optical petrology, electron microscopy; electrical conductivity. Development of borehole logging techniques for mineral industry regional gravity and magnetic surveys.

Facilities: Low temperature magnetometer; controlled magnetic field space; high sensitivity susceptibility bridge.

Current or Potential Work: R&D for government, R&D for private sector, non R&D services for private sector.

MORRIS ROD-WEEDER CO. LTD.

85 York Rd, Yorkton, Saskatchewan, S3N 2X2.

Morris Research & Development

605 York Rd. W., Yorkton, Saskatchewan, S3N 2X2.

Admin. Contact: Mr. David A. Dobson, Director; R&D,
Tel: (306) 783-8585.

Scientific Contact: Mr. Glen Hantke, R&D Product Supervisor, Tel: (306) 783-8585.

Personnel: Total is 26 of which 6 are scientists and engineers.

Activities: Our R&D is in the Agriculture Field dealing with: tillage, cultivation of the soil and machines to do this; farm seeding of fine grains, coarse grains, and row crop seeds proper placement, packing and machines to accomplish this; fertilizer placement, amounts and machines to do this; hay handling equipment.

Current or Potential Work: self or parent.

MORRISON HERSHFIELD LIMITED

3089 Bathurst Street, Toronto, Ontario, M6A 2A4.

Morrison Hershfield Limited Research and Development

1815 Meyerside Drive, Unit 4, Mississauga, Ontario, L5T 1G3.

Contact: Allan T. Quaile, Manager, Research and Development, Tel: (416) 499-3110.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: R&D activities are directed toward structural engineering technology. The laboratory is equipped for testing of: wood-based structural components; wood products in structural sizes; engineered structural assemblies.

Facilities: Test frame for trusses, beams, columns; pneumatic loading equipment; moisture content measuring device; Specific gravity equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MORTON & PARTNERS LIMITED

215 Carlingview Drive, Rexdale, Ontario, M9W 5X8.

Research Unit

Admin. Contact: J. Coates, Administrator & Exec.

Assistant, Tel: (416) 675-1440.

Scientific Contact: J.D. Morton, Principal Engineer & Scientist, Tel: (416) 675-1440.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Geotechnical, geological and geohydrological sciences; ground-to-structure interaction analysis; instrumentation and performance monitoring of prototypes; mechanical tunnelling and shaft sinking and the development of appropriate lining systems and design methodologies; research, development and testing of appropriate cement-polymer-fibre systems for

underground support; in situ testing of ground conditions; foundation, structural or underground failure evaluation and analysis (usually involves R&D into some aspect of materials in engineering knowledge and procedural or cost benefit improvements). Past R&D activities by our Firm have contributed to positive advancements in tunnelling methods and cost control and in the development of new fibre-reinforced materials and improved earth methods for geotechnical purposes.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

MOSAID INC.

P.O. Box 13579, Kanata, Ontario, K2K 1X6.

Research Unit

Admin. Contact: C. Baburek, Group Comptroller,
Tel: (613) 836-3134.

Scientific Contact: B. Woodley, Engineering Manager,
Tel: (613) 836-3134.

Personnel: Total is 25 of which 10 are scientists and engineers.

Activities: Design analysis; design of I.C.s; C.A.D. software; development of memory testers.

Facilities: Microscope and photography equipment; DEC - VAX; DEC - PDP/11; miscellaneous P.C.s and peripherals; miscellaneous test equipment.

Current or Potential Work: self or parent, R&D for private sector.

MOTOROLA INFORMATION SYSTEMS LTD

9445 Airport Rd, Brampton, Ontario, L6S 4J3.

Research Unit

Contact: Dr. P.O. Brackett, Vice-President, Engineering,
Tel: (416) 793-5700.

Personnel: Total is 90 of which 60 are scientists and engineers.

Activities: Design of electronic data communications; hardware software; microprocessor software firmware; signal processing/array processors hardware, software for acoustic, satellite, SAR, CATS applications.

Facilities: DEC VAX782 Dev. System; Applicon CAD System; Xerox Star Graphics.

Current or Potential Work: self or parent, R&D for government.

MPB TECHNOLOGIES INC.

1725 N. Service Rd, Trans-Canada Hwy, Dorval, Québec, H9P 1J1.

Research Unit

1725 North Service Rd, Trans-Canada Hwy., Dorval, Québec, H9P 1J1.

Admin. Contact: C.W. Rose, Chief Accountant,
Tel: (514) 683-1490.

Scientific Contact: Dr. M.P. Bachynski, President,
Tel: (514) 683-1490.

Personnel: Total is 48 of which 38 are scientists and engineers.

Activities: Electronic graphics - high quality electronic graphics for broadcast, business and scientific applications; systems based on microprocessors - train data recording systems, target image processing, intelligent communications terminals. Lasers and laser applications - infra red and far infra red lasers and detectors; laser communication systems, beam delivery systems, stabilization system, optical fibre applications. Fusion energy - special instrumentation (microwave, laser, electronic data acquisition and control systems, pumping systems, engineering analyses. Electromagnetics - special radars, scatterometers, radiometers, defence

systems, antennas, control electronics, systems test equipment, millimeter wave instruments and systems.
Facilities: Computers - PDP11/plus, MINC, IBM PC microprocessor development systems (Emulogic, Intel (3)); anechoic chamber (electromagnetic); microwave measurement systems at 10, 24, 35, 70, 140 GHz; hydrogen furnace; laser bake-out and filling facilities.
Current or Potential Work: self or parent, R&D for government, R&D for private sector.

MUIRHEAD SYSTEMS LIMITED

50 Galaxy Bldv., Unit 4, Rexdale, Ontario, M9W 4Y5.

Muirhead Systems Limited, Engineering Dept.

50 Galaxy Blvd., Unit 5, Rexdale, Ontario, M9W 4Y5.

Admin. Contact: J.B. Crampton, General Manager,
Tel: (416) 675-7450.

Scientific Contact: B.W. Daniels, Chief Engineer,
Tel: (416) 675-7450.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Image processing and telecommunications, specializing in methods of image display and interchange for meteorological and press applications.

Current or Potential Work: self or parent, non R&D services for government.

MULCO INC.

2835 Grande Allée, St-Hubert, Québec, J4T 3K3.

Research Unit

Admin. Contact: Pierre Camirand, Sales Manager,
Tel: (514) 465-5470.

Scientific Contact: Marc-André Chabot, Directeur,
Tel: (514) 465-5470.

Personnel: Total is 8 of which 6 are scientists and engineers.

Activities: R-D for the manufacturing of products used in construction: sealants and caulking; body work cements; protective coatings; and multipurpose adhesives.
Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

MURPHY OIL COMPANY LTD

Ste 1700, 800-6th Ave. S.W., Calgary, Alberta, T2P 3Y3.

Murphy Thermal Recovery Processes Dept.

Contact: Mr. L. Bland, Manager, Thermal Recovery Operations, Tel: (403) 294-8095.

Personnel: Total is 22 of which 4 are scientists and engineers.

Activities: The company does research into developing techniques for increasing production from heavy oil and tar sands - this involves research into, and field pilot testing of thermal recovery techniques such as fireflood and steamflood; the company does research design and development of heavy oil equipment such a downhole pumping, emulsion separation and production measuring equipment.

Facilities: Eyehill 25 well in situ combustion pilot; Lindbergh 7 well steamflood pilot.

Current or Potential Work: self or parent.

MUSTANG INDUSTRIES INC.

3810 Jacombs Rd, Richmond, B.C., V6V 1Y6.

Experimental Workshop

Contact: Robert J. Askew, Manager; Ind. Prod. & Tech. Devel., Tel: (604) 270-8631.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Research in collaboration with other organizations into the nature of life threatening situations in marine and related environments. Development of personal protective clothing, equipment

and systems to enhance survival in marine environments.

Facilities: Buoyancy test equipment.

Current or Potential Work: self or parent, non R&D services for government.

MUTH AIR PAC INC.

23985 Lougheed Hwy, Albion, B.C., V0M 1B0.

Research Unit

Admin. Contact: Fred H. Muth, President,
Tel: (604) 467-5571.

Scientific Contact: Gordon H. Muth, Research Technologist, Tel: (604) 467-5571.

Personnel: Total is 4 of which 1 is a scientist or engineer.

Activities: Automation in the wood products industry. Specialization in cutting, sorting and packaging systems for shingle, shake and saw mills.

Facilities: Programmable controller.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

MW CANADA LTD

291 Elgin St. N., P.O. Box 368, Cambridge, Ontario, N1R 7G4.

Research Unit

Admin. Contact: L.M. Spitzer, Controller,
Tel: (519) 621-5460.

Scientific Contact: U. Negro, Head, Design Staff,
Tel: (519) 621-5460.

Personnel: Total is 5 of which 4 are scientists and engineers.

Activities: Fabric developments for various decorative, industrial, furniture and allied fields.

Current or Potential Work: self or parent, non R&D services for private sector.

NATIONAL SEA PRODUCTS LIMITED

PO Box 2130, Duke Tower, Scotia Square, Halifax, Nova Scotia., B3J 3B7.

Fisheries Resource Devel. Ltd - a National Sea Products Ltd's subsidiary R & D company

192 Joseph Zatzman Dr., Suite 7, Dartmouth, N.S., B3B 1N4.

Admin. Contact: Mrs. Laura Boyd-Brown, Administrative Assistant, Tel: (902) 469-8375.

Scientific Contact: Dr. John F. Maloney, President & CEO, Tel: (902) 469-8376.

Personnel: Total is 13 of which 12 are scientists and engineers.

Activities: Product development, process development, marine sciences. Fields of specialization - marine engineering, fisheries processing, food science and technology, industrial engineering.

Current or Potential Work: self or parent, R&D for government.

NAWITKA RENEWABLE RESOURCE CNSLTS LTD

836-840 Cormorant St., Victoria, B.C., V8W 1R1.

Project Basis

Admin. Contact: George S. Nagle, President,
Tel: (604) 384-5133.

Scientific Contact: Stephen M. Smith, Senior Consultant, Tel: (604) 384-5133.

Personnel: Total is 12 of which 7 are scientists and engineers.

Activities: Forest stand and forest estate simulation; growth responses to silvicultural treatments. Wildlife ecology - species, systems, interactions with forest management. Industry simulation and technological forecasting - forestry sector.

Facilities: Various field inst./equip. - dendrology, wildlife monitoring; microcomputers (640K, 10M6 hard disk); Drawing/drafting.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

NELSON'S DAIRY LTD

180 Ormont Drive, Weston, Ontario, M9L 1N7.

Nelson's R&D Labs

Admin. Contact: Mr. Peter Calabretta, Vice-President,
Tel: (416) 742-6811.

Scientific Contact: Mr. A. Gelda, Director, R&D,
Tel: (416) 742-6811.

Personnel: Total is 9 of which 9 are scientists and engineers.

Activities: UHT dairy and non-dairy food products in the area of new product and process development.

Facilities: Pilot plant - 2 stage homogenizer; plate heat exchanger; steam kettle; Taylor - soft serve freezer; infra-red - fat analyser.

Current or Potential Work: self or parent.

NETWORK DATA SYSTEMS LIMITED

245 Yorkland Blvd. Suite 301, Willowdale, Ontario, M2J 4W9.

Department of Network Data Systems

7445 Victoria Park Avenue, Markham, Ontario, L3R 2Y7.

Contact: W.O. Mustard, Vice-President,
Tel: (416) 475-2075.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Micro computer hardware and software; KSR interfaces for electronic typewriters; micro-computers to add up function, with software for WP and communications, thus allowing electronic typewriters to become office work stations; software security hardware and software; teletex hardware and software (contract with Telecom Canada).

Current or Potential Work: self or parent, R&D for private sector.

NEW BRUNSWICK ELECTRIC POWER COMMISSION (THE)

P.O. Box 2000, 515 King Street, Fredericton, New Brunswick, E3B 4X1.

Chatham Generating Station

Lower Water St., Chatham, New Brunswick, E1N 1A1.

Contact: P.J. Whalen, Director of R&D,
Tel: (506) 453-4440.

Personnel: Total is 50 of which 5 are scientists and engineers. (Note: Part-time R&D personnel.)

Activities: Combustion research: 1) coal oil mixtures 2) coal water mixtures 3) fluidized bed combustion 4) distributed mixing pulverized coal burners.

Facilities: One 10 MW and one 20 MW boiler; Turbine sets. C/W combustion; equipment and supporting services in Frasconcourt.

Current or Potential Work: self or parent, R&D for government.

NIACAD LTD

27 Robertson Road, Nepean, Ontario, K2H 5Y7.

Research Unit

Contact: Mr. Dave A. Cain, President,
Tel: (613) 726-0367.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Definition, design, specification for advanced microelectronic mobil data acquisition systems - radio/data systems for transportation.

Current or Potential Work: R&D for private sector, non R&D services for private sector.

NL CHEM CANADA INC.

4 Place Ville-Marie, Montréal, Québec, H3B 4M5.

Département technique

3390 Marie-Victorin, Varennes, Québec, J0L 2P0.

Admin. Contact: Roger P. Beaulne, Director of Operations, Tel: (514) 652-2931.

Scientific Contact: Roger P. Beaulne, Director of Operations, Tel: (514) 652-2931.

Personnel: Total is 31 (Note: The unit has 3 chemists and 4 technologists.)

Activities: Process control; research and development; and product improvement.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

NORANDA INC.

PO Box 45 Commerce Court W, Suite 4500, Toronto, Ontario, M5L 1B6.

Noranda Research Centre/Centre de Recherche Noranda

240 Hymus Boulevard, Pointe Claire, Québec, H9R 1G5.

Contact: Dr. P. (Peter) Tarasoff, Director of Research and Development, Tel: (514) 697-6640.

Personnel: Total is 136 of which 64 are scientists and engineers.

Activities: Industrial; non-ferrous extractive metallurgy; non-ferrous alloy development; electrochemistry; electro optic materials; underground mining.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

NORDCO LIMITED

P.O. Box 8833, 23 Glencoe Drive, St. John's, Newfoundland, A1B 3T2.

Research Unit

23 Glencoe Drive, P.O. Box 8833, St. John's, Newfoundland, A1B 3T2.

Admin. Contact: P. Denise Clarke, Accounting Manager,
Tel: (709) 364-1200.

Scientific Contact: F.D. Smith, President & Chief Executive Officer, Tel: (709) 364-1200.

Personnel: Total is 100 of which 40 are scientists and engineers.

Activities: Marine instrumentation; fisheries technology; offshore environment monitoring instruments; geotechnical instrumentation.

Facilities: Machine shop and equipment; computer equipment; electronic laboratory and equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

NORPAK CORPORATION

10 Hearst Way, Kanata, Ontario, K2L 2P4.

Research Unit

Admin. Contact: Mr. H. Dewar, Manager, Contracts & Administration, Tel: (613) 592-4164.

Scientific Contact: Dr. J.A. Norton, Manager, Eng. & Systems Marketing, Tel: (613) 592-4164.

Personnel: Total is 70 of which 50 are scientists and engineers.

Activities: Videotex general / teletext general / Teletext Broadcast Equipment / Videotex Decoders / Teletext Decoders / NAPLPS Picture Creation Systems / Video Systems / VideoData Encoding and Insertion / VLSI chip design / Software Systems / Graphics Creation Algorithms / Image Digitization / Automated Graphics Creation / Graphics Human Interface / Error Detection and Correction / High Speed Digital Signal Recovery / Echo Cancellation.

Facilities: Video Data Insertion Systems; Videotex Data Bases; Teletext Broadcast equipment; EMI/RFI measurement range; Screened Room; RSX/UNIX/IDRIS/039 software Dev. Systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

NORWEST SOIL RESEARCH LTD

9938-67 Ave, Edmonton, Alberta, T6E 0P5.

Agricultural Research

Admin. Contact: Mr. Jean-Michel Crepin, President,
Tel: (403) 438-5522.

Scientific Contact: Dr. J. Ashworth, Research Manager,
Tel: (403) 438-5522.

Personnel: Total is 8 of which 4 are scientists and engineers.

Activities: Agronomy; soil chemistry; soil reclamation; soil microbiology; biochemistry; primary pollutant; organics; feed quality; animal nutrition; food testing.

NOVA AN ALBERTA CORPORATION

P.O. Box 2535, Station M, Calgary, Alberta, T2P 2N6.

NOVA/Husky Research Corporation Ltd

1411-25 Avenue N.E., Calgary, Alberta, T2E 7L6.

Admin. Contact: L. Taylor, Manager - Admin. Services,
Tel: (403) 276-9844.

Scientific Contact: G.B. Miller, President and Director of Research, Tel: (403) 276-9844.

Personnel: Total is 47 of which 20 are scientists and engineers.

Activities: Bioscience; chemical science; petrochemistry; geoscience; gas & fluid dynamics; electronics and instrumentation.

Facilities: Gas and liquid chromatography; microscopes; anaerobic chambers.

Current or Potential Work: self or parent.

NOVA ENERGY LIMITED

40 Wright Avenue, Dartmouth, Nova Scotia, B3B 1G6.

Research Unit

Admin. Contact: John R. Farrell, Vice-President,
Tel: (902) 469-4425.

Scientific Contact: Barry V. Davis, President,
Tel: (902) 469-4425.

Personnel: Total is 11 of which 4 are scientists and engineers.

Activities: R&D in the field of low head / no head Hydro Electric Power Generation. Development of turbines which extract energy from the velocity of the stream or tidal flow. Units developed thus far generate 5 - 160 kW. Unit under development will produce one megawatt. Device developed by Nova Energy is referred to as a Vertical Axis Hydro Turbine (VAHT).

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

NOVACOR CHEMICALS LTD

1600-734-7th Avenue S.W., Calgary, Alberta, T1Y 6G7.

Novacor Technical Centre

3620-32nd Street N.E., Calgary, Alberta, T1Y 6G7.

Admin. Contact: S. Plato, Admin. Assistant,
Tel: (403) 291-8407.

Scientific Contact: R.W. Betty, Technical Manager,
Tel: (403) 291-8406.

Personnel: Total is 20 of which 5 are scientists and engineers.

Activities: Product development and technical service including PVC, polyethylene and other thermoplastics.

Facilities: Rheological characterization of polymer; processing evaluation and applications development; physical and analytical testing.

Current or Potential Work: self or parent.

NOVALAB LTD

9420 Côte de Liesse, Lachine, Québec, H8T 1A1.

Research Section

Contact: J.D. Fenwick, Vice-President,
Tel: (514) 636-6219.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Internal research on procedure development for organic analysis. Some research and development for Federal and Provincial Governments through RFP and unsolicited proposals through D.S.S.

Facilities: GC/Mass Spec.; CC; LC.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, non R&D services for private sector.

NOVATRACK ANALYSTS LTD.

212 Brooksbank Ave, North Vancouver, B.C., V7J 2C1.

Research Unit

212 Brooksbank Ave., North Vancouver, B.C., V7J 2C1.

Contact: Henk P. Blok, President, Tel: (604) 984-0221.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Nuclear analytical chemistry; radio isotope tracer work; radio isotope production.

Facilities: Gamma spectroscopy systems; alpha spectrometers; Alpha/Beta counters; thermal neutron sources; high energy neutron source.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

NUCLEAR ACTIVATION SERVICES LIMITED

1280 Main Street West, Hamilton, Ontario, L8S 4K1.

Research Unit

Contact: Dr. E. Hoffman, Director of Marketing,
Tel: (416) 522-5666.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Analysis of trace elements by neutron activation analysis in the fields of geochemistry, life sciences, chemistry, pharmaceuticals, etc.

Facilities: Delayed neutron system; prompt gamma system; 8 PHYGE MCA-computer systems.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

NUMETRIX LIMITED

8 King Street East, #1000, Toronto, Ontario, M5C 1B5.

Research Unit

8 King Street E., #1000, Toronto, Ontario, M5C 1B5.

Contact: Heidi Breslauer, General Manager,
Tel: (416) 362-1000.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Resource scheduling; interactive graphics; CAD/CAM; business decision support tools.

Current or Potential Work: self or parent.

OCEANROUTES CANADA INCORPORATED

Suite 3, 1378 Bedford Highway, Bedford, Nova Scotia, B4A 1E2.

Research Unit

1378 Bedford Highway, Bedford, Nova Scotia, B4A 1E2.

Admin. Contact: Hugh Macpherson, President,
Tel: (902) 835-1617.

Scientific Contact: Joseph Seiler, Vice President,
Tel: (902) 835-1617.
Personnel: Total is 2 of which 2 are scientists and engineers.
Activities: Meteorology and oceanography. Spectral wave models.
Facilities: YGR computers.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ONTARIO HYDRO

700 University Avenue, Toronto, Ontario, M5G 1X6.

Ontario Hydro Research Division

800 Kipling Avenue, Toronto, Ontario, M8Z 5S4.

Contact: Fred J. Kee, Director of Research,

Tel: (416) 231-4111.

Personnel: Total is 624 of which 263 are scientists and engineers.

Activities: The research division is a fully integrated laboratory and has expertise in electrical, mechanical, chemical, civil and metallurgical engineering and physics, chemistry and biology. The work is principally associated with the technical and scientific needs of a large electric power utility, but these needs often overlap significantly with problems faced by other industries and government.

Facilities: High voltage laboratory; high current laboratory; high capacity pump test laboratory; SF6 substation laboratory; heavy mechanical test laboratory; combustion test facility.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

ONTARIO PAPER COMPANY

80 King Street, St. Catharines, Ontario, L2R 7G2.

Research Department

Allanburg Road, Thorold, Ontario, L2V 3Z5.

Contact: Anthony Yau, Director of Research,

Tel: (416) 227-1121.

Personnel: Total is 14 of which 5 are scientists and engineers.

Activities: Process of product development relating to integrated pulp, newsprint and chemical by-products operation.

Facilities: Pulping digester; ultrafiltration unit.

Current or Potential Work: self or parent.

OPTech INCORPORATED

701 Petrolia Road, Downsview, Ontario, M3J 2N6.

Research Unit

Admin. Contact: Dr. A.I. Carswell, President,

Tel: (416) 661-5904.

Scientific Contact: J. B. Howston, General Manager,

Tel: (416) 661-5904.

Personnel: Total is 22 of which 14 are scientists and engineers.

Activities: We work in electro-optics in general and on laser systems in particular. Our main activity is the design and development of laser radar systems for atmospheric diagnostics (LIDAR), for water depth measurement (bathymetry) and for distance measurement (range finders). We do custom development as well as system manufacturing in these areas. We have broad experience in the field operation of ruggedized laser systems (airborne, shipborne or on land vehicles).

Facilities: Laser development systems; electro-optical testing equipment; environmental test chamber; computer facilities; microprocessor development system.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

OPTICAL ART CAMERA CORP.

150 Kent St., Suite 405, Ottawa, Ontario, K1P 5P4.

Research Unit

Contact: Andre Proulx, President, Tel: (613) 238-5764.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Motion graphic computerized film animation systems.

Facilities: System III.

Current or Potential Work: self or parent.

OPTIKON CORPORATION LTD. (THE)

410 Conestogo Road, Waterloo, Ontario, N2L 4E2.

Research Unit

Admin. Contact: M. Vassiliadis, Vice-President Marketing,

Tel: (519) 885-2551.

Scientific Contact: B. Klymowich, Engineering Supervisor,

Tel: (519) 885-2551.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Laser alignment systems-optical hardware development; spectroradiometric systems-photometric evaluation systems; transmissometric and reflectometric systems development.

Facilities: Spectro radiometer model 710; pritchard photomâCer; spectral analysis microcomputer; luminance standard LS-65; spectral illuminance standards; spectral salibration facility.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

OPTO-ELECTRONICS INC.

2538 Speers Rd; Units 8, 9 & 10, Oakville, Ontario, L6L 5K9.

Research Unit

Contact: Dr. B.K. Garside, President, Tel: (416) 827-6214.

Personnel: Total is 17 of which 17 are scientists and engineers.

Activities: Company fields of expertise are in the areas of industrial control instrumentation, fiber optic systems, optical communications, electro-optics & instrumentation, fast optical sources & detectors, high voltage pulse techniques, solid state electronics, laser devices, and sensors & transducers. Past year activities include new product development and manufacturing as well as contract research on special ultra-high speed photodetectors, ultra-high speed diode laser light sources, tunable infrared diode lasers, and a line of industrial electro-optical process monitors & controllers. The company has introduced an average of at least four products per year. Current research projects include ultra-fast photodetectors, ultra-fast laser diode sources, industrial monitors and controllers, a fiber optic data link, high voltage pulse measurements, an electronic streak camera, high-speed optical switches, fiber-based liquid sensors and infrared sources, and detectors based on lead salt materials.

Facilities: Solid state device fabrication equipment; fiber optical device test equipment; optical testing capability; ultra high speed signal detection systems.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

OPTOTEK LIMITED

1283 Algoma Road, Ottawa, Ontario, K1B 3W7.

Optotek Limited R&D Laboratory

Contact: David I. Kennedy, President, Tel: (613) 746-3100.
Personnel: Total is 15 of which 7 are scientists and engineers.

Activities: Optoelectronic display system technology; light-emitting diode material preparation and device fabrication technology; infrared photodetector device fabrication (specialization cadmium mercury telluride); gallium arsenide field effect transistors and integrated circuits for microwave communications and digital integrated circuit applications.

Facilities: Specialized semiconductor processing and test equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

ORION ELECTRONICS LIMITED

P.O. Box 58, Saulnierville, N.S., B0W 2Z0.

Research Unit

Contact: Hugh Roddis, President, Tel: (902) 769-3059.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Radio propagation related to direction finding in VHF and UHF; development of special radio DF equipment; miniaturization of radio equipment including transmitters; microprocessor control circuitry for use within electronic equipment.

Facilities: Spectrum analyzer to 2G#z; antenna test range.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

P.S.C. CONTROLS

1980 Monterey, Laval, Québec, H7L 3S3.

Research Unit

Admin. Contact: Paul Latraverse, President,
Tel: (514) 687-2710.

Scientific Contact: Berg Hovsepyan Eng., Vice-President of R&D, Tel: (514) 687-2710.

Personnel: Total is 15 of which 5 are scientists and engineers.

Activities: All sorts of energy management programs are the main effort of our R&D department. Specifically these programs include the design and development of intelligent electronic controllers to perform energy saving tasks. The interfacing of these microprocessor based units to the real world is also part of our activities.

Facilities: Necessary lab equipment for electronic development.

Current or Potential Work: self or parent, R&D for private sector.

PAYTON SCIENTIFIC LIMITED

120 Milner, Unit 9, Scarborough, Ontario, M1S 3R2.

Research Unit

120 Milner Ave., Unit 9, Scarborough, Ontario, M1S 3R2.

Admin. Contact: Robert W. Baker, President,
Tel: (416) 298-9600.

Scientific Contact: Douglas Bush, Research Director,
Tel: (416) 298-9600.

Personnel: Total is 10 of which 3 are scientists and engineers.

Activities: Development of medical instruments for blood platelet studies. Development of industrial and forensic science instruments.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

PCO SERVICES LTD

232 Norseman Street, Toronto, Ontario, M8Z 2R4.

Chemical Research International

2697 Slough Street, Mississauga, Ontario, L4T 1G2.

Admin. Contact: Dave Smith, President,
Tel: (416) 231-7276.

Scientific Contact: W.D. Blaine, Director of Research,
Tel: (416) 671-1898.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Biological testing of pesticides in regard to Government registration; pesticide residue sampling; development of integrated pest management programs for agriculture.

Facilities: Gas chromatography; Potter Tower; insect rearing facilities; rodent rearing facilities.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

PDM PRODUITS ELECTRIQUES LTEE

345 rue Isabey, St-Laurent, Québec, H4T 1Y2.

Research Unit

Admin. Contact: Peter Deacey, Président,
Tel: (514) 342-6581.

Scientific Contact: Michel Dufour, Technologiste,
Tel: (514) 342-6582.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Central-computer-linked remote control system for electrical load. Our system regulates (on/off) building load by means of a Douglas WR-6321-88 low-voltage relay, and displays the status of the relay on the monitor of the central computer. The purpose of this system is better energy management.

Facilities: Computer for development purposes; electronic equipment.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

PEMBINA RESOURCES LTD

PO Box 1948, 734-7th Ave. S.W., Calgary, Alberta, T2P 2M7.

Research and Development Department

P.O. Box 1948, 734 - 7 Avenue S.W., Calgary, Alberta, T2P 2M7.

Admin. Contact: Dr. R.A.S. Brown, Manager, Research,
Tel: (403) 294-5774.

Scientific Contact: Dr. E. St. Denis, Director, Research and Engineering, Tel: (403) 294-5178.

Personnel: Total is 5 of which 4 are scientists and engineers.

Activities: The Research Department's main focus is the transportation of bulk commodities by pipeline including slurry and pneumatic capsules; Other active interests are enhanced heavy oil recovery and coal beneficiation.

Current or Potential Work: self or parent, R&D for government.

PENGALTA RESEARCH & DEVELOPMENT LTD

Ste 3, 4425-64 Ave. S.E., Calgary, Alberta, T2C 2C8.

Pengalta Research & Development Test Facility

#3 & #4, 4425-64 Ave. S.E., Calgary, Alberta, T2C 2C8.

Contact: Mr. Terry Kimmel, General Manager,
Tel: (403) 279-6149.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Heavy oil developmental hardware and demonstration systems; oil sands developmental hardware and demonstration systems; diffusion separation process technology; research and development

services in mechanical engineering, design development and testing related to the energy industries.
Facilities: Heavy oil production simulator.
Current or Potential Work: self or parent, R&D for government, R&D for private sector.

PETRO-CANADA

PO Box 2844, Calgary, Alberta, T2P 3E3.

Petro-Canada Resources, Research & Development Division

40 Research Place N.W., Calgary, Alberta, T2L 1Y6.

Admin. Contact: M.T. Homan, Manager, R&D Services,
Tel: (403) 296-5909.

Scientific Contact: G.C.M. Derbowka, Senior Director,
R&D, Tel: (403) 296-5913.

Personnel: Total is 176 of which 81 are scientists and engineers.

Activities: Exploration, production and process research related to fuel and energy resources. Main emphasis is on offshore exploration and development; conventional oil and gas exploration and production; oil sands and heavy oil recovery technology; upgrading of heavy oil; and refining.

Current or Potential Work: self or parent.

PETROLEUM RECOVERY INSTITUTE

3512-33rd St. N.W., Calgary, Alberta, T2L 2A6.

Research Unit

Contact: Mr. J.E. Maybin, Executive Director,
Tel: (403) 282-1211.

Personnel: Total is 34 of which 12 are scientists and engineers.

Activities: Objective is to conduct research in the field of petroleum production from underground reservoirs with emphasis on enhanced oil recovery techniques such as steam flooding, chemical flooding, miscible flooding, as well as fundamental studies of fluid properties, phase behaviour and flow through porous media.

Facilities: 8 laboratories for experimental work and geological studies.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

PHILLIPS PAINT PRODUCTS (1968) LTD

95 Paquin Rd., Winnipeg, Manitoba, R2J 3V9.

Research Unit

95 Paquin Road, Winnipeg, Manitoba, R2J 3V9.

Admin. Contact: Keith Vidal, General Manager,
Tel: (204) 222-6781.

Scientific Contact: T. Tonogai, Chief Chemist,
Tel: (204) 222-6781.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Industrial coatings; chemical coatings; corrosion control coatings.

Facilities: QUV weathering; IR spectrophotometer; color spectrophotometer; salt spray; general paint testing.

Current or Potential Work: self or parent.

PHOTOCHEMICAL RESEARCH ASSOCIATES INC.

45 Meg Drive, London, Ontario, N6E 2V2.

Research Unit

Admin. Contact: R.J. Kovach, Vice-President,
Tel: (519) 686-2950.

Scientific Contact: R.L. Lyke, Director; Research,
Tel: (519) 686-2950.

Personnel: Total is 15 of which 10 are scientists and engineers.

Activities: Pulsed and CW gas laser research; dye laser studies; photochemistry and photophysics; molecular spectroscopy; computer hardware and software; optics; electronic development.

Facilities: HP 3000 Computer; PHP 11 computers; Hamamatsu Streak camera; optical test equipment; microprocessor system.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

PICKER INTERNATIONAL CANADA INC.

70 Bramalea Road, Bramalea, Ontario, L6T 2W8.

Picker International Canada Inc. - Bramalea Engineering

26 Victoria Crescent, Bramalea, Ontario, L6T 1E5.

Admin. Contact: Rod Sykes, Manager of Engineering and Research, Tel: (416) 791-3422.

Scientific Contact: Dr. N. Ramanathan, Research Physicist,
Tel: (416) 791-3422.

Personnel: Total is 39 of which 6 are scientists and engineers.

Activities: Semiconductor X-Ray Sensors: Development and testing of x-ray sensitive materials, development of electronic read-out for diagnostic radiologic imaging, investigation of x-ray sensitive thin film panels for direct visual read-out of x-ray images. Laser Scanning: Design and development of large area laser scanners with intensity modulation for printing of x-ray images. Development of medical x-ray patient positioning devices.

Facilities: Computer controlled X-Ray generator; microdensitometer; digital image data acquisition and processing system - under consideration.

Current or Potential Work: self or parent.

PIRELLI CABLES INC.

1981 McGill College Avenue, Montréal, Québec, H3A 2X6.

Materials Laboratory

65 Richelieu, St-Jean, Québec, J3B 6X2.

Admin. Contact: F. Brunet, Manager, Finance & Admin.,
Tel: (514) 346-6831.

Scientific Contact: R.D. Rosevear, Chief Engineer,
Tel: (514) 346-6831.

Personnel: Total is 11 of which 4 are scientists and engineers.

Activities: Development of electrical wire and cables - HV paper insulated cables, MV and HV extruded cables, telecommunication cables including fibre optics.

Current or Potential Work: self or parent.

PLASTIBETON INC.

5600 Hochelaga St., Suite 300, Montreal, Quebec, H1N 3L7.

Research Unit

Contact: Peter F. Trent, President, Tel: (514) 254-6071.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Polymer concrete, reconstituted stone.

Facilities: Physical testing apparatus - compressive/flexural; abrasion tester; pilot plant manufacturing equipment.

Current or Potential Work: self or parent.

PLASTIQUES TECHNIQUES T.R. LTEE

1860 Marie Victorin, St-Bruno de Montarville, Québec, J3V 4P6.

Research Unit

Admin. Contact: Jean Dufresne, Gérant,
Tel: (514) 653-1731.

Scientific Contact: Robert Dufresne, Ingénieur,
Tel: (514) 653-1731.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: The goal of our research is the development of pultrusion-based manufacturing processes for the production of various objects made of fibreglass and resins. We currently produce about ten different sections

and are experimenting with the production of new shapes.

Current or Potential Work: self or parent, R&D for private sector.

Note: Descriptive text has been translated from French.

POCATEC LTEE

85 route 132 Ouest, La Pocatière, Québec, G0R 1Z0.

Pocatec Limitée

85 route 132 Ouest, La Pocatière, Québec, G0R 1Z0.

Contact: Carl Cassista, Directeur général,

Tel: (418) 856-1454.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Communication (PA) systems; battery chargers; fibre optics; and microprocessor controller.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Note: Descriptive text has been translated from French.

POELES ST-GEORGES INC (LES)

798-8 Rue Est, La Guadeloupe, Quebec, G0M 1G0.

Poèles Saint-George Inc. (Les)

798-8ième rue est, La Guadeloupe, Quebec, G0M 1G0.

Admin. Contact: Gilles Grondin, Director of Marketing,

Tel: (418) 459-6458.

Scientific Contact: Claude Roy, General Manager,

Tel: (418) 459-6458.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: The research and development pertains especially to new products such as air-tight stoves, wood and electric domestic furnaces, mechanical thermostats with proportional control for solid-fuel stoves, and zero-clearance stoves. The research done on these products is aimed at making them cleaner and more efficient, meeting quality standards, reducing the amount of maintenance and supervision they require, and creating an attractive product.

Facilities: Digital temperature indicator; two 10-channel receivers linked to (a) type K thermocouple wires linked to (b) Bacharach Fyrite gas analyzers (O₂ and CO₂); Bacharach Drafrite (for draft); flowmeter; and magnetic thermometers.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

POLYGON INDUSTRIES LTD

50 Northline Road, Toronto, Ontario, M4B 3E2.

Research Unit

Contact: P.D. Smith, Director, Research & Development,

Tel: (416) 755-3301.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Electrical power apparatus (transformers and switchgear) design and testing; testing and development of electrical insulation systems; high voltage dry-type testing to 200kv impulse, 100kv power frequency, apparatus heat runs and thermal testing; controlled insulation thermal aging tests.

Current or Potential Work: self or parent, non R&D services for private sector.

POLYSAR LIMITED

201 Front St. N., Polysar Bldg, Sarnia, Ontario, N7T 7V1.

Corporate Research & Development Division

Polysar Ltd. R&D Lab., S. Vidal Street, Sarnia, Ontario, N7T 7M2.

Admin. Contact: T.W.G. Deeprose, Facilities Manager, CR&DD, Tel: (519) 337-8251.

Scientific Contact: Dr. B.J. Hutchinson, Director, Corp.

Res. & Dev., Tel: (519) 337-8251.

Personnel: Total is 21 of which 11 are scientists and engineers.

Activities: Mainly exploratory research and development in polymeric fields with subsidiary interests in non-polymeric materials. Specialties include polymerization science, materials science, fundamental reaction mechanisms, etc.

Current or Potential Work: self or parent.

Elastomers Research & Development Division

Polysar Ltd. R&D Lab., S. Vidal Street, Sarnia, Ontario, N7T 7M2.

Admin. Contact: C.J. West, Manager of Monomers and Energy, Tel: (519) 337-8251.

Scientific Contact: K. Ascroft, Manager, ERDD, Tel: (519) 337-8251.

Personnel: Total is 204 of which 98 are scientists and engineers.

Activities: Research and development in the field of synthetic elastomers, ranging from basic research through process research to applications development. Areas of specialization - Tire rubbers, oil and heat resistant rubbers (hoses and seals), Plastic reinforcement, impermeable rubber (inner tubes and liners and membranes), compounding studies.

Facilities: Central lab services, operated by ERDD. Electron microscope (Phillips); image analyser (Bausch & Lomb); gas chromatograph/mass spectrometer (Finnigan); 250 MHz FT-NMR (Bruker); fully equipped analytical section; flexible pilot plant.

Current or Potential Work: self or parent.

Latex Research Department, Latex Division

Polysar Ltd., R&D Lab., S. Vidal Street, Sarnia, Ontario, N7T 7M2.

Admin. Contact: H.S.J. Slooten, Research Manager, Latex, Tel: (519) 337-8251.

Scientific Contact: Dr. V.G. Xanthopoulos, Manager, Latex Technical, Tel: (519) 332-1212.

Personnel: Total is 28 of which 13 are scientists and engineers.

Activities: Synthetic rubber lattices research and development. Specializations - paper coating, carpet adhesives and foam backing, general foam applications, non-solvent adhesives, textile treatment including non-wovens, cement and asphalt additives.

Facilities: Uses ERDD Central Services as primary analytical source. Carpet making pilot plant; colloid science instruments.

Current or Potential Work: self or parent.

Styrenics & Resin/Olefins, Monomers & Energy R&D Group

Polysar Ltd., R&D Lab., S. Vidal Street, Sarnia, Ontario, N7T 7M2.

Contact: Dr. J.C. Lamont, Technical Manager, Styrenics, Tel: (519) 332-1212.

Personnel: Total is 20 of which 12 are scientists and engineers.

Activities: Research and development in the field of styrene monomer and styrene polymer on both crystal and high impact forms, primarily seeking improvements in raw material, feedstocks, process technology, products and application.

Facilities: Uses ERDD central services as primary analytical source. Standard plastic laboratory equipment.

Current or Potential Work: self or parent.

POS PILOT PLANT CORP.

118 Veterinary Rd, Saskatoon, Saskatchewan, S7N 2R4.

Research Unit

Admin. Contact: Mr. Roy Carr, Executive Director,
Tel: (306) 665-7791.

Personnel: Total is 28 of which 7 are scientists and engineers.

Activities: Development of new or improved processing technology for processing of cereal grains, oilseeds, legumes and other biological materials to give components such as protein, oil, starch and other useful products; ingredient development; food product development.

Facilities: Pilot scale component separation; pilot scale oilseed crushing; microwave-vacuum technology; oil/fat refining; grain processing.

Current or Potential Work: R&D for government, R&D for private sector.

POSS DESIGN LIMITED

1 West Avenue South, Hamilton, Ontario, L8N 2R9.

Research Unit

Contact: W. Poss, President, Tel: (416) 522-9214.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Research and development of new technology for foods processing equipment. Specialization in (a) mechanical separation of flesh and bones; (b) high volume and high pressure pumps; (c) orientation of flesh fibres; (d) other related areas.

Facilities: Use of outside laboratories.

Current or Potential Work: self or parent, R&D for private sector.

POTASH CORP. OF SASKATCHEWAN MINING LTD

410-22nd St. E., Saskatoon, Saskatchewan, S7K 5T7.

PCS Mining

Innovation Place, Saskatoon Research Park, Saskatoon, Saskatchewan, S7K 3X5.

Contact: Dr. Graeme G. Strathdee, Director, Research and Development, Tel: (306) 664-5522.

Personnel: Total is 35 of which 15 are scientists and engineers.

Activities: Mining equipment and methods; rock mechanics; geology; seismicity; geophysics; conveyor systems; tailings drop pipe; flotation; compaction; process development; process instrumentation; electrostatic separation; tails pile stability; brine migration in soils; salt dust transport in air; potash agronomic research; mine modeling and simulation.

Facilities: Pilot plant facility; Joint PCS - Univ. of Sask. Research.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

PRATT & WHITNEY CANADA INC.

1000 Marie-Victorin Blvd, Longueuil, Québec, J4K 4X9.

Pratt & Whitney Canada - Engineering Group

Admin. Contact: Ismael Awan, Manager, Engineering Resources, Tel: (514) 647-7577.

Scientific Contact: Colin B. Wrong, Vice-President, Engineering, Tel: (514) 647-7584.

Personnel: Total is 1900 of which 625 are scientists and engineers.

Activities: Main field of R&D: Aircraft gas turbine engines - basic research and applied research, design, fabrication of prototype engines, test, continuous improvement of product.

Facilities: Test cells; aerodynamic and stress rigs; test aircraft; CAD/CAM equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

PRIOR DATA SCIENCES LTD

39 Highway 7, Bell Mews Plaza, Nepean, Ontario, K2H 8R2.

Prior Data Sciences

Admin. Contact: Kay Stephens, Office Administration,
Tel: (613) 820-7235.

Scientific Contact: David Moss, Director, Engineering,
Tel: (613) 820-7235.

Personnel: Total is 45 of which 40 are scientists and engineers.

Activities: Graphics; communications; data acquisition and control; speech recognition; air traffic control; robotics; remote sensing; computerized weigh scales.

Facilities: PDP-11/44; IBM-PC; WICAT 68000; ORCA 3000.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Research Unit

144 Front St. W., Suite 201, Toronto, Ontario, M5J 1G2.

Admin. Contact: Lorraine Coady, Office Administrator,
Tel: (416) 596-1429.

Scientific Contact: Kevin Ives, Manager,
Tel: (416) 596-1429.

Personnel: Total is 15 of which 12 are scientists and engineers.

Activities: Graphics; communications; data acquisition and control; speech recognition; air traffic control; robotics; remote sensing; computerized weigh scales.

Facilities: LSI-11.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

PROLITE PLASTICS LTD

7316-18th St., Edmonton, Alberta, T6P 1N8.

Research Unit

Admin. Contact: Marianne Kaspe, , Tel: (403) 467-5310.

Scientific Contact: Paul Kaspe, Plant Manager,
Tel: (403) 467-5310.

Personnel: Total is 3-4 of which none are scientists and engineers.

Activities: Developing better processes for manufacturing various thermoplastic fittings. This includes a now pending patent application for the manufacture of a 'Single Flare Flange Adapter' in Polyethylene, also developing a process for manufacturing same in Polybutylene. Currently commencing development on a new Tee procedure. New fusion techniques.

Current or Potential Work: self or parent.

PROMAC CONTROLS INC.

1375 Morningside Avenue, Scarborough, Ontario, M1B 3C5.

Promac Controls Inc., R&D Department

1375 Morningside Ave., Scarborough, Ontario, M1B 3C5.

Admin. Contact: H.J. Hansen, General Manager,
Tel: (416) 284-8440.

Scientific Contact: D. Martin, Manager, R&D,
Tel: (416) 284-8440.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Micro-processor controlled instrumentation; telemetry; digital and analog electronics; software for process control.

Facilities: 2 NOVA 4 computer systems; 3 micro-computer systems; logic analysers; oscilloscopes.

Current or Potential Work: self or parent.

PROTEC MACHINERY LIMITED

21 Glendale Avenue, Lt. Sackville, Nova Scotia, B4C 3J4.

Research Unit

Admin. Contact: Earle Scott, Operations Manager,
Tel: (902) 865-1444.
Scientific Contact: Per Myklebust, Technical Manager,
Tel: (902) 865-1444.
Personnel: Total is 9 of which 2 are scientists and engineers.
Activities: Design, develop and manufacture of fish processing machinery; complete plant layouts; adaptation and upgrading of existing process equipment.
Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

PROTECTIVE PLASTICS LIMITED

3447 Kennedy Road, Scarborough, Ontario, M1V 3S1.

Research Unit

Admin. Contact: Mr. Rob de Blauw, Director of Engineering, Tel: (416) 291-9581.
Scientific Contact: Mrs. T.O. Bautista, Supervisor, R & D Laboratory, Tel: (416) 291-9581.
Personnel: Total is 6 of which 5 are scientists and engineers.
Activities: Product development, plastics; process development, plastics.
Facilities: Dielectric tester; dissipation tester factor; mechanical tester-tensile, flex etc.; abrasion tester; Flammability equipment; physical tester-viscosity, SG, etc.
Current or Potential Work: self or parent, R&D for private sector.

PULP & PAPER RESEARCH INSTITUTE OF CANADA

570 St John's Blvd., Pointe Claire, Québec, H9R 3J9.

Pulp and Paper Research Institute of Canada

570 St. John's Blvd., Pointe Claire, Québec, H9R 3J9.
Admin. Contact: Cyril D. Doucet, Vice-President Administration, Tel: (514) 630-4100.
Scientific Contact: Dr. H.I. Bolker, Director of Research, Tel: (514) 630-4100.
Personnel: Total is 306 of which 106 are scientists and engineers.
Activities: Chemical pulping and bleaching; mechanical pulping; papermaking; materials development; environmental science; systems engineering; basic oriented research; technological forecasting; biotechnology.
Facilities: Papermaking machine; pilot calender machine; chemical pulping pilot plant; mechanical pulping pilot plant; experimental printing press.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

PYLON ELECTRONIC DEVELOPMENT COMPANY, LTD.

147 Colonnade Road, Nepean, Ontario, K2E 7L9.

Pylon Electronic Development Co Ltd

Admin. Contact: John E. Pinnell, President,
Tel: (613) 226-7920.
Scientific Contact: George Vandrish PhD, Director of Research, Tel: (613) 226-7920.
Personnel: Total is 8 of which 4 are scientists and engineers.
Activities: RADON and THORON measurement technology; RADON daughter standards; development of health physics instrumentation; investigation of emanation efficiency of products of radium and thorium.
Facilities: Radiation chambers.
Current or Potential Work: self or parent, non R&D services for government.

Pylon Electronic Development Co Ltd

2300 Victoria Street, Lachine, Québec, H8S 1Z3.

Contact: Louis Mandel PhD, General Manager,
Tel: (514) 637-1186.

Personnel: Total is 9 of which 4 are scientists and engineers.

Activities: Uninterruptable power supplies; radio controlled load shedding for power utilities; power conversion equipment.

Current or Potential Work: self or parent.

Q.C. DATA COLLECTORS LTD

#1200, 635-8th Ave S.W., Calgary, Alberta, T2P 3M3.

Research Unit

1200, 635 - 8 Avenue S.W., Calgary, Alberta, T2P 3M3.

Contact: R.J. Hipkin, V-President; R&D,
Tel: (403) 269-3306.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: 1. The use of solid state CCD cameras for digitizing oil well logs, maps and drawings. High speed colour graphics used to enhance the man-machine interface. 2. Transportable digital logger for coal and oil well logging. 3. Computerized oil well log analysis package on mini and micro-computers.

Facilities: CCD cameras; high speed micros; colour graphics.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

QIT-FER ET TITANE INC.

770 Sherbrooke West, Montréal, Québec, H3A 1G1.

QIT-Fer et Titane Research Department

P.O. Box 560, Sorel, Québec, J3P 5P6.

Admin. Contact: H.Y. Lee, Technical Director,
Tel: (514) 742-6671.

Scientific Contact: A.E. Grau, Research Manager,
Tel: (514) 742-6671.

Personnel: Total is 74 of which 30 are scientists and engineers.

Activities: Pilot plant tests to ensure an adequate and consistent supply of raw materials for the Sorel smelter; investigations to improve the smelting, beneficiation and refining processes through a better understanding of the process metallurgy and operating variables; test work to maintain and increase the share of the market held by Sorelslag and Sorelmetal through technical service, the evaluation of competitive products and the improvement of existing products; studies related to the titania and the iron and steel industries to develop new processes and products.

Facilities: 150 KVA pilot smelting furnace; 300 lb and 100 lb induction furnaces; Astro high temperature furnaces (2); electron microscope; fully equipped metallurgical laboratory; X-ray diffraction and fluorescence.

Current or Potential Work: self or parent.

QUADRO ENGINEERING INC.

613 Colby Drive, Waterloo, Ontario, N2V 1A1.

Research Unit

Contact: D.N. Lynch, Manager, Research Engineering,
Tel: (519) 884-9660.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Size reduction (comminution) of particulates for the food and pharmaceutical industry, wet or dry phase; solids handling and material preparation; solids mixing; process equipment design and development.

Facilities: COMIL Grinders, various sizes.

Current or Potential Work: self or parent, R&D for government.

QUATIC CHEMICALS LIMITED

61 Lewis Road, Guelph, Ontario, N1A 1E9.

Laboratory Department

Admin. Contact: Mr. Angelo Venerus, Vice-President,
Tel: (519) 821-7780.

Scientific Contact: B.A. Zidovec, Laboratory Manager,
Tel: (519) 821-7780.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: Water treatment chemicals: corrosion inhibitors, oxygen scavengers, antiscalants, microbiocides, flocculants, surfactants.

Facilities: Spectrophotometers; corrosimeters; dissolved oxygen meters; A.A.; G.C.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

QUEBEC METAL POWDERS LIMITED

1655 Route Marie-Victorin, Tracy, Québec, J3R 4R4.

Research Unit

Admin. Contact: Joseph M. Capus, Technical Director,
Tel: (514) 742-5911.

Scientific Contact: Yves Trudel, Manager, R&D,
Tel: (514) 742-5911.

Personnel: Total is 22 of which 9 are scientists and engineers.

Activities: Process and product development related to the manufacture and application of ferrous metal powders; powder metallurgy; testing and characterization of metal powders.

Facilities: Pilot plant facilities for manufacture of experimental metal powders.

Current or Potential Work: self or parent.

QUESTOR SURVEYS LTD.

6380 Viscount Road, Mississauga, Ontario, L4V 1H3.

Questor Research Division

Contact: P.G. Lazenby, Chairman and Director of Research, Tel: (416) 676-9880.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Airborne exploration geophysics - fixed wing and helicopter; electromagnetics - time domain; magnetics - low sensitivity, high sensitivity, gradient; digital data processing; analog and mathematical modelling.

Facilities: DC-3 aircraft; high power pulse E.M. system; 11/73 computer.

Current or Potential Work: self or parent.

R.H. LOUCKS OCEANOLOGY LTD

24 Clayton Park Drive, Halifax, Nova Scotia, B3M 1L3.

R.H. Loucks Oceanology Ltd.

Contact: Dr. R.H. Loucks, President, Tel: (902) 443-1113.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Physical oceanographic research: coastal and nearshore processes, environmental variability in the Northwest Atlantic. Fisheries oceanographic research: fisheries oceanography and fish population dynamics, oceanography and aquaculture.

Current or Potential Work: R&D for government.

R.J. PICK LTD

4 Spruce Lane, Elmira, Ontario, N3B 2Y7.

Research Unit

Contact: R. Pick, President, Tel: (519) 669-8055.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: Mechanical engineering: solid mechanics, stress, analysis, fatigue, fracture, finite element methods. Studies include pipelines, welding, light rail vehicles, nuclear components, pressure vessels.

Current or Potential Work: R&D for government, R&D for private sector.

RAM INDUSTRIES LTD

33 York Road E., Yorkton, Saskatchewan, S3N 2W1.

Research & Development Dept.

Admin. Contact: Mr. Al Gedcke, General Manager,
Tel: (306) 783-8539.

Scientific Contact: Mr. David Lesanko, Engineer,
Tel: (306) 783-8539.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Research into the improvement and design of hydraulic cylinders and skid steer loaders.

RAYLO CHEMICALS LTD.

8045 Argyll Rd, Edmonton, Alberta, T6C 4A9.

R&D Department

Admin. Contact: Mr. J.F. Prescott, Ph.D., Technical Manager, Tel: (403) 465-7937.

Scientific Contact: Mr. W.H. Muhs, Ph.D., Manager, R&D,
Tel: (403) 465-7937.

Personnel: Total is 12 of which 12 are scientists and engineers.

Activities: Chemical process development; chemical characterization and analysis; coal liquefaction; flocculation and flocculants; polymers and polymerization; high temperature resistant polymers; novel resins for composites; insect attractants (pheromones); biochemical intermediates; pharmaceutical intermediates.

Facilities: General purpose chemical pilot plant; supercritical gas technology.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

RCA INC.

P.O. Box 161, Royal Bank Plaza, Toronto, Ontario, M5J 2J4.

New Products Division, Photodetector Operations

21001 Trans-Canada Highway, Ste-Anne-de-Bellevue, Québec, H9X 3L3.

Admin. Contact: Ronald Swarbrick, Manager, Marketing,
Tel: (514) 457-9000.

Scientific Contact: Dr. Robert J. McIntyre, Manager, Research and Development, Tel: (514) 457-9000.

Personnel: Total is 35 of which 20 are scientists and engineers.

Activities: Solid state photodetectors - silicon PIN and avalanche photodetectors - InGaAs PIN and avalanche photodetectors. Detector modules (including hybrid wideband preamplifiers).

Facilities: Complete line of equipment required for fabrication and testing of semiconductors and devices.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

REICHHOLD LIMITED

4 Robert Speck Parkway Ste 700, Mississauga, Ontario, L4Z 1S1.

Reichhold Limited - Resin Division, Corporate Laboratory Headquarters

1919 Wilson Avenue, Weston (Toronto), Ontario, M9M 1B1.

Admin. Contact: Mrs. Diana King, Administrative Assistant, Tel: (416) 742-0262.

Scientific Contact: Dr. S.M. Kambanis, Technical Director, Tel: (416) 742-0262.

Personnel: Total is 26 of which 24 are scientists and engineers.

Activities: Synthesis of resins used in the coatings, adhesives and forest industries. Analysis of raw materials and processed materials. Investigating the replacement of fossil fuel byproducts by other means. Evaluating the results of different processing techniques for industry. Monitoring safety and hazardous conditions for all laboratories and work places.

Current or Potential Work: self or parent, non R&D services for private sector.

RELTEK INC

44 Steacie Dr., Kanata, Ontario, K2K 2A9.

Reltek Inc.

44 Steacie Drive, Kanata, Ontario, K2K 2A9.

Contact: M. Sullivan, President, Tel: (613) 592-2411.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Custom design of electronic systems particularly in the special test areas. These areas include component testing, telecom testing and small system testing. Turnkey systems can be provided for data acquisition and control of many types of situations eg., environmental data used to control systems, etc. Strengths are in the electronic side of the design requirement.

Facilities: Component test equipment; environmental equipment; Burn In equipment.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

RESEARCH FOODS LIMITED - BIOTECHNOLOGY DIVISION

77 Champagne Drive, Downsview, Ontario, M2J 2C6.

Research Unit

Admin. Contact: O. Wald, Controller, Tel: (416) 635-8434.

Scientific Contact: H. Tenenbaum, President, Tel: (416) 635-8434.

Personnel: Total is 30 of which 22 are scientists and engineers.

Activities: Mycotoxins - isolation methods of identification of all types and manufacture of certain biological trichothecene compounds - Vomitoxin acetyl-vomitoxin etc and derivatives. Food processing methodology.

Facilities: GC mass spectrophotometer; HPLC; GC.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

RICHARD BRANCKER RESEARCH LTD

27 Monk Street, Ottawa, Ontario, K1S 3Y7.

Research Unit

Admin. Contact: Norma Eckford, Assistant Manager, Tel: (613) 233-1621.

Scientific Contact: Richard Brancker, Manager, Tel: (613) 233-1621.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Design and development of special purpose telco equipment; design of special purpose RF equipment; development of special purpose radiation monitoring equipment; design and development of electronic test equipment.

Facilities: Microprocessor development system; RF laboratory; digital lab; Cratory; prototype PCB fabrication facility; encapsulation facility; machine shop.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

RIEDER DISTILLERY LTD

297 South Service Rd, Grimsby, Ontario, L3M 4E9.

Rieder Distillery, R&D Dept.

Contact: Ludwig J. Babjak, M.A.Sc., Director of R&D, Tel: (416) 945-9225.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Extraction and purification of natural colours; extraction and purification of natural flavors; formulation of alcoholic and non-alcoholic beverages; utilization of byproducts from fruit and vegetable processing operations.

Facilities: Counter-current extractor; vacuum still; desulfurization column; ultrafiltration, reverse osmosis; absorption chromatography column; gas-liquid chromatograph.

Current or Potential Work: self or parent.

RIO ALGOM LTD

120 Adelaide Street W., Toronto, Ontario, M5H 1W5.

Rio Algom Ltd, Process Development Dept.

P.O. Box 1500, Elliot Lake, Ontario, P5A 2K1.

Contact: E. Barnes, Superintendent Process Development, Tel: (705) 461-4455.

Personnel: Total is 24 of which 8 are scientists and engineers.

Activities: Uranium extractive metallurgy; base metal extraction and recovery; hydrometallurgy including solvent extraction, ion exchange leaching (acid); metallurgical beneficiation - flotation, screening, grinding etc.; metallurgical test work - filtration, counter current decantation, thickening, cycloning etc.; analysis, particularly uranium, copper, molybdenum, iron, thorium.

Facilities: 3.4 metre Jarrell-Ash emission spectrophotometer; Phillips semi-automatic X-ray; grinding and classification equipment; Metallographic equipment; P. plant ion exchange columns; bacterial leach columns.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

RITE WAY MFG. CO. LTD

1891 Albert St. N., Regina, Sask., S4P 3H1.

Research Unit

1891 Albert St. North, Regina, Saskatchewan, S4P 4H1.

Admin. Contact: Mr. Leslie Hulisko, President, Tel: (306) 543-6777.

Scientific Contact: Mr. Brent Sattler, Engineer, Tel: (306) 543-6777.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Design farm and industrial equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

ROBERTS-GORDON APPLIANCE CORP. LTD.

241 South Service Road W., Grimsby, Ontario, L3M 1Y7.

Roberts-Gordon Appliance Corporation Limited

241 South Service Road West, Grimsby, Ontario, L3M 1Y7.

Contact: R.G. Smith, Vice-President & Acting General Manager, Tel: (416) 945-5403.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: The R&D performed is of a specialized nature for the residential and commercial gas heating market. The R&D is of a continuous nature as more efficient and innovative systems are investigated.
Current or Potential Work: self or parent.

ROBIN HOOD MULTIFOODS INC.

243 Consumers Road, Willowdale, Ontario, M2J 4W8.

Robin Hood Multifoods Inc. - Technical Centre

191 Attwell Dr., Unit 4, Rexdale, Ontario, M9W 5Z2.

Contact: M.W. O'Connor, Vice-President, Technical

Director, Tel: (416) 675-6139.

Personnel: Total is 16 of which 10 are scientists and engineers.

Activities: Development of new products for operating divisions of the company (glass goods, specialty meats, dry grocery, flour, bakery mixes, agriculture products and away from home eating); investigation of potential new technologies for existing and new product areas; process and product improvement studies; analytical and microbiological method development; special studies to maintain product quality and competitive position in the market place.

Facilities: Wheat milling, baking laboratory; pilot bakery; liquid processing pilot equipment; GC, NIR, spectrophotometer and other specialized analytical and microbiological equipment.

Current or Potential Work: self or parent.

ROCTEST LTD/LTEE

665 Pine, St-Lambert, Québec, J4P 2P4.

Research Unit

Admin. Contact: Denis Marcil, Président,

Tel: (514) 465-1113.

Scientific Contact: J.F. Capelle, Dr. ing., Vice-président,

Tel: (514) 465-1113.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Development of new measuring instruments in the geotechnical and structural field.

Facilities: Machining and electronics laboratory and workshops.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Note: Descriptive text has been translated from French.

ROY BALL ASSOCIATES LIMITED

1750 Courtwood Cres., Ste. 300, Ottawa, Ontario, K2C 2B5.

Research Unit

1750 Courtwood Crescent, Suite 300, Ottawa, Ontario, K2C 2B5.

Contact: John Amyot, Director, Marketing & Research,

Tel: (613) 226-7890.

Personnel: Total is 25 of which 20 are scientists and engineers.

Activities: Data acquisition & control; Image processing; Signal processing; Pattern recognition.

Current or Potential Work: self or parent, R&D for government.

RUMBLE EQUIPMENT LTD

25 Baywood Rd, Rexdale, Ontario, M9V 3Y8.

Electronic Development Group (Adjustable Frequency Development)

Admin. Contact: Mr. David L. Duff, Mgr; Controls Division, Tel: (416) 743-8711.

Scientific Contact: Mr. Boris Mokrytzki, Mgr; Development, Tel: (416) 743-8711.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: This facility is organized to support production of advanced solid state power control systems primarily for adjustable speed drives; The experience of individual engineers has produced adjustable frequency inverters to powers of 1000 Hp for industrial and transportation projects.

Facilities: Motor and drive electrical test facilities.

Current or Potential Work: self or parent.

S.C. JOHNSON & SON LIMITED,

1 Webster Street, Brantford, Ontario, N3T 5R1.

R&D Division, S.C. Johnson & Son Limited

Contact: Dr. Peter Nott, Director, R&D,

Tel: (519) 756-7900.

Personnel: Total is 12 of which 8 are scientists and engineers.

Activities: Development of chemical speciality products for consumer and industrial markets, including cleaners, floor polishes, furniture polishes, disinfectants, insecticides, airfresheners, etc. Development of personal care products, including hair shampoos, hair conditioners, skin lotions and other cosmetics. Development of coatings materials, including polymers for graphic arts industry, paper coatings polymers, etc.

Current or Potential Work: self or parent.

SAFER AGRO-CHEM LTD

6761 Kirkpatrick Cr., R.R. #3, Victoria, B.C., V8X 3X1.

Research Unit

Contact: Dr. G.S. Puritch, V-President, Research and Development, Tel: (604) 652-4426.

Personnel: Total is 16 of which 16 are scientists and engineers.

Activities: Research and development of natural plant and animal oil constituents as pest control products.

Current or Potential Work: self or parent.

SANDER GEOPHYSICS LTD

303 Legget Drive, Kanata, Ontario, K2K 2B1.

Research Unit

Contact: Dr. George W. Sander, President,

Tel: (613) 592-1301.

Personnel: Total is 26 of which 8 are scientists and engineers.

Activities: Development of instrumentation and methods for geophysical surveys (airborne) related to magnetometer surveys, radiation surveys, electrical surveys, development of digital data acquisition systems for such surveys.

Facilities: Electronic laboratory; computing centre; test aircraft.

Current or Potential Work: self or parent, non R&D services for government, non R&D services for private sector.

SAR ENGINEERING

3683 West 4th Avenue, Vancouver, B.C., V6R 1P2.

Research Unit

Contact: Ken Cooper, Partner, Tel: (604) 733-5631.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Energy use analysis, including computer thermal simulation, for residential, commercial, institutional and industrial buildings. Monitoring of the thermal performance of conventional and solar space and water heating systems. Computer simulation and physical modelling of daylighting in commercial and institutional buildings. Technology transfer of building science to the building industry.

Facilities: Two Hewlett-Packard Series 80 micro-computers; one IBM PC computer; fan door for

built Cng de-pressurization tests; two Campbell scientific data loggers; an or velocimeter.

Current or Potential Work: R&D for government, non R&D services for government, non R&D services for private sector.

SASK. WHEAT POOL-PRODUCT DEVEL, FARM SERVICE DIV.

2625 Victoria Ave, Regina, Saskatchewan, S4P 2Y6.

Product Development Branch

Contact: Mr. R.E. Morgan, Manager, Tel: (306) 569-4445.

Personnel: Total is 15 of which 5 are scientists and engineers.

Activities: Varietal development - wheat and sunflower breeding and also barley evaluation, and rapeseed breeding in cooperation with Alberta Wheat Pool; chemical and application evaluation - herbicides, insecticides, fungicides; agronomy - fertilizer placement, planting methodology, etc.

Facilities: Research farm - Watrous SH.

Current or Potential Work: self or parent.

SASKATCHEWAN MINERALS

P.O. Box 120, Chaplin, Saskatchewan, S0H 0V0.

Research and Engineering Department

PO Box 120, Chaplin, Saskatchewan, S0H 0V0.

Contact: Gordon F. Miller, Director, Research and Engineering, Tel: (306) 395-2561.

Personnel: Total is 7 of which 3 are scientists and engineers.

Activities: We engage almost completely in practical research devoted to enhance the quality of our products in sodium sulfate and peat moss and to reduce the costs of production. Major improvements to equipment and expansions of facilities are handled by the same group.

Current or Potential Work: self or parent.

SASKATCHEWAN POWER CORPORATION

2025 Victoria Ave, Regina, Saskatchewan, S4P 0S1.

Saskatchewan Power Corporation - Research and Development Centre

Admin. Contact: Gerry Argue, Administration Manager,

Tel: (306) 566-2278.

Scientific Contact: Dr. Michael Weekes, Acting Director,

Tel: (306) 566-2273.

Personnel: Total is 40 of which 23 are scientists and engineers.

Activities: Electrical power generation, transmission and distribution; natural gas production, transmission and distribution; advanced energy conversion; renewable resources; Resource development; energy utilization.

Facilities: Metallurgical laboratory; chemical laboratory; mechanical test laboratory; electronics laboratory; computer laboratory; high voltage test laboratory; combustion laboratory; coal gasification testing facility; electrical test facilities.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SASKOIL

515 Henderson Drive, Regina, Saskatchewan, S4N 5X1.

Heavy Oil Laboratory

Contact: Mr. J. Hutchison, Acting Director,

Tel: (306) 566-9400.

Personnel: Total is 28 of which 14 are scientists and engineers.

Activities: Enhanced oil recovery; production; upgrading. (All programs are heavy oil related).

Facilities: Combustion tube and process units; spectroscopy instruments; petroleum analysis instruments; thermo-analytical instruments; emulsion characterization and testing; core displacement apparatus; PVT and slim tube; corrosion test units.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SATEL CONSULTANTS LIMITED

2609 Fenton Road, Ottawa, Ontario, K1G 3N3.

Research Unit

Contact: B.F. Murphy, P.Eng., President,

Tel: (613) 822-1166.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Satellite system design (2-12 GHz); satellite receiver design TV and radio (4 GHz); satellite receiver design data (4 GHz); TV/radio modulator design; antenna tracking drive design (1-3.7M).

Facilities: Microwave test equipment; satellite antennas 1-3M.

Current or Potential Work: self or parent, non R&D services for government, R&D for private sector, non R&D services for private sector.

SCANADA CONSULTANTS LIMITED

436 MacLaren Street, Ottawa, Ontario, K2P 0M8.

Research Unit

Admin. Contact: Mrs. S. Murphy, Office Manager,

Tel: (613) 236-7179.

Scientific Contact: R.E. Platts, President,

Tel: (613) 236-7179.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Building physics; energy use and conservation in buildings; renewable energy; computer modelling.

Facilities: Fans for airtightness testing; optical fibroscope; psychrometers; moisture meters; data loggers.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Research Unit

446 Reynolds Street, Oakville, Ontario, L6J 3M4.

Contact: C.E. Bonnyman, Vice-President,

Tel: (416) 842-3633.

Personnel: Total is 8 of which 3 are scientists and engineers.

Activities: Building physics; energy use and conservation in buildings; renewable energy.

Facilities: Fans for airtightness testing; infra-red thermography equipment (AGA); psychrometers; optical fibroscope; moisture meters.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SCANNAR INDUSTRIES INC.

PO Box 1599, 1800 Vincent Massey Dr., Cornwall, Ontario, K6H 5V6.

Research Unit

P.O. Box 1599, 1800 Vincent Massey Drive, Cornwall, Ontario, K6H 5V6.

Admin. Contact: Roger Gervais, General Administrator,

Tel: (613) 933-2222.

Scientific Contact: John Hom, Engineering Manager,

Tel: (613) 933-2222.

Personnel: Total is 40 of which 11 are scientists and engineers.

Activities: This unit carries out R&D work related to underwater technology, particularly underwater sonics.

Sonar systems are designed and fabricated. This includes transducer design, digital signal processing and software development work.

Facilities: Software development computers; Array processor computer; Test tank.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SCANTECH ELECTRONICS INC.

1707 Sismet Road, Unit 5, Mississauga, Ontario, L4W 2K8.

Research Unit

Admin. Contact: M.J. Prittie, President,

Tel: (416) 625-1844.

Scientific Contact: J.C. Kirk, Engineering Manager,

Tel: (416) 625-1844.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Opto-electronics; microprocessor based machine control systems.

Current or Potential Work: self or parent, R&D for private sector.

SCHLEGEL CANADA INC.

514 South Service Rd, Oakville, Ontario, L6J 5A2.

Schlegel Canada Inc., Research & Development

Admin. Contact: Robert Hope, President and General Manager, Tel: (416) 845-6657.

Scientific Contact: Helmut Hock, R&D Engineer, Tel: (416) 845-6657.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Product development of window and door seals used for the Canadian building and construction industry. This development includes material and design investigations and is directed toward minimizing air and water infiltration in extreme climate environments (including temperature, wind, ice, fire, UV, etc).

Current or Potential Work: self or parent.

SCINTREX LIMITED

222 Snidercroft Road, Concord, Ontario, L4K 1B5.

Scintrex, R&D Laboratories

Contact: Dr. H.O. Seigel, President, Tel: (416) 669-2280.

Personnel: Total is 52 of which 30 are scientists and engineers.

Activities: Sensing of magnetic fields, electric fields, gravity, nuclear radiation, trace metals, trace gases, laser induced fluorescence, portable gas chromatographs, atomic absorption spectrometers; microprocessor based instrumentation.

Facilities: Nuclear laboratory; vacuum equipment for electrodeless lamps; environmental chambers.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

SCOTIA LIQUICOAL LIMITED

PO Box 1074, Halifax, Nova Scotia, B3J 2X1.

Research Unit

Contact: K. Burrill, Vice-President - General Manager, Tel: (902) 425-8430.

Personnel: Total is 6 of which 3 are scientists and engineers.

Activities: Preparation and use of coal liquid mixture fuels. Beneficiation of coals using spherical agglomeration methods. Treatment of fine coal waste streams. Recirculation testing of fuel train components, including atomizer nozzles. Combustion demonstrations.

Facilities: 5 ton/hr coal preparation pilot plant; mobile fuel handling system; recirculation test facility.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SEAKEM OCEANOGRAPHY LTD.

2045 Mills Road, P.O. Box 2219, Sidney, B.C., V8L 3S1.

Oceanographic Research Unit

2045 Mills Road, Sidney, British Columbia, V8L 3S1.

Admin. Contact: Mr. Victor Wood, Manager,

Tel: (604) 656-0881.

Scientific Contact: Dr. David R. Green, Vice-President,

Tel: (604) 656-0881.

Personnel: Total is 25 of which 15 are scientists and engineers.

Activities: 1. Marine chemistry - development of new sampling methods, development of new organic and inorganic chemical procedures. 2. Biotechnology - development of histopathological procedures. 3. Physical oceanography - development of new data transmission from field instruments to ship or shore receiving stations.

Facilities: 3 gas chromatographs; 3 atomic absorption spectrophotometers; 1 gas chromatograph-mass spectrometer; various optical microphotograph equipment; PDP 11/34 computer; electronic telemetry transmission equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SEASTAR INSTRUMENTS LTD

2045 Mills Road, P.O. Box 2430, Sidney, B.C., V8L 3S1.

Scientific Instrument Development

2045 Mills Road, Sidney, B.C., V8L 3S1.

Admin. Contact: W.C. Cooke, General Manager,

Tel: (604) 656-0891.

Scientific Contact: Peter G. Berrang, President,

Tel: (604) 656-0891.

Personnel: Total is 8 of which 8 are scientists and engineers.

Activities: 1) Laser Optics Division - development of various laser optic and fibre optic sensors. 2) Acoustics Division - development of various acoustic transmission devices. 3) Special Products Division - development of a robotics control system and various microchip software developments. 4) Ultra-Pure Chemicals Division - preparation of ultra-pure mineral acids.

Facilities: Shielded, vibration-free optics room; class-100 clean rooms (2); various electronics test equipment; logic state analyzer; calibration hydrophone and access equipment; high precision pressure calibration facility.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SED SYSTEMS INC.

Box 1464, 2505 Koyl Ave, Saskatoon, Saskatchewan, S7K 3P7.

SED Research Ltd

Box 1464, 2415 Koyl Ave, Saskatoon, Saskatchewan, S7K 3P7.

Contact: Mr. R. Benneweis, Vice-President,

Tel: (306) 244-0976.

Personnel: Total is 23 of which 12 are scientists and engineers.

Activities: Satellite communication products & equipment; TVRO systems; Satellite television receivers; Microwave components for satellite earth stations, small satellite earth stations; FM SCPC or digital SCPC earth stations; Electronic instrumentation and controller for agriculture equipment.

Facilities: Electronic laboratory; microwave clean room; microcomputer development system; precision machine shop; photo lithography and chemical processing circuit board and metal parts.

Current or Potential Work: self or parent.

SEIMAC LIMITED

1378 Bedford Highway, Bedford, Nova Scotia, B4A 1E2.

Research Unit

Admin. Contact: Hugh Macpherson, President,

Tel: (902) 835-9686.

Scientific Contact: Joseph Seiler, Vice-President,

Tel: (902) 835-9686.

Personnel: Total is 11 of which 7 are scientists and engineers.

Activities: 1. Integrated data systems for shipboard use; 2. Electronics for the offshore; 3. Automated monitoring systems; 4. Seabed survey systems; 5. Fibre optic systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SENSTEK LTD

P.O. Box 340, Saskatoon, Saskatchewan, S7K 3L3.

Research Unit

Admin. Contact: R. Ball, Operations Manager,

Tel: (306) 374-3966.

Scientific Contact: S.K. Wa, Chief Engineer,

Tel: (306) 374-3966.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Development of electronic products for use in agricultural and industrial applications.

Current or Potential Work: self or parent, R&D for government.

SERDARY RESEARCH LABORATORIES INC.

P.O.Box 5036, 1643 Kathryn Drive, London, Ontario, N6G 2R7.

Serdary Research Labs Inc.

1643 Kathryn Dr., London, Ontario, N6G 2R7.

Contact: Dr. B. Serdarevich, President,

Tel: (519) 434-4419.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Development of fine biochemicals in the lipid field for medical research.

Current or Potential Work: self or parent.

SERVICES CONVERTO-BRAILLE CYPIHOT-GALARNEAU

123, rue Berri, Hull, Québec, J8Y 4H9.

Research Unit

Contact: Roland Galarneau, Président, Tel: (819) 770-2825.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Development of special instruments for visually handicapped persons (example: Braille terminal).

Current or Potential Work: R&D for government.

Note: Descriptive text has been translated from French.

SERVICES D'INGENIERIE SECURITAIRE FD LTEE

12201 Letellier, Montréal, Québec, H3M 2Z9.

Rayonnement Electromagnétique

Contact: F. Dawalibi, Directeur, Tel: (514) 336-2511.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: (1) Theoretical and experimental studies on electromagnetic fields generated by electrical conductors embedded in dissipating mediums. Specialization:

electrical energy and networks, low-frequency communication, and detection and localization of electrical conductors. (2) Development of specialized software for the analysis of problems related to the above-mentioned studies.

Facilities: Small scale simulation model with automatic data acquisition by computer; computer, peripheral devices and various measuring instruments.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

Note: Descriptive text has been translated from French.

SHAWINIGAN LAVALIN INC.

620, Dorchester Blvd. West, Montréal, Québec, H3B 1N8.

Advanced Energy Technology Division

Admin. Contact: Mr. Saeed Quraeshi, Eng., Director,

Tel: (514) 397-2417.

Scientific Contact: Mr. Brian Richards, Eng., Chief Design

Engineer, Tel: (514) 397-2403.

Personnel: Total is 19 of which 12 are scientists and engineers.

Activities: Our fields of specialization include the following areas of energy generation: wind; photovoltaic; fuel cells; solar/thermal; solar/wind; hydrogen.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

SHELL CANADA LTD

525-3rd Avenue S.W., Calgary, Alberta, T2P 2M7.

Calgary Research Centre

3655-36th St. N.W., Calgary, Alberta, T2L 1Y8.

Admin. Contact: Mr. Claude Simon, Manager, Technology

- Research, Tel: (403) 232-3111.

Scientific Contact: Mr. R.R. Picard, Vice-President,

Research, Tel: (403) 232-4800.

Personnel: Total is 101 of which 40 are scientists and engineers.

Activities: Shell's Calgary Research Centre's efforts are being directed towards improving techniques for exploration and production of oil and gas from conventional and non-conventional sources. Work at the centre relating to recovery technology for enhanced oil recovery and insitu oil sands complements field research and development currently taking place. Specialization is in the following areas: geology; petroleum engineering; production technology; materials and corrosion; electronics and instrumentation.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

Oakville Research Centre

3415 Lakeshore Rd W., Oakville, Ontario, L6J 5C7.

Admin. Contact: Mr. Claude Simon, Manager, Technology

- Research, Tel: (403) 232-3111.

Scientific Contact: Mr. R.R. Picard, Vice-President,

Research, Tel: (403) 232-4800.

Personnel: Total is 125 of which 42 are scientists and engineers.

Activities: Shell's Oakville Research Centre investigates improvements to petroleum and petrochemical products and to manufacturing processes that will reduce costs and save energy. It is particularly active in the development of fuel-efficient engine oils and lubricants. The Centre contains modern pilot plant facilities designed to test improved refining processes by simulating refinery operations on a small scale.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

SHERITT GORDON MINES LIMITED

Box 2800 Commerce Court West, Toronto, Ontario, M5L 1B1.

Sheritt Research Centre and Engineering Dept.

—, Fort Saskatchewan, Alberta, T8L 2P2.

Contact: Mr. H. Veltman, Director, Tel: (403) 998-6432.

Personnel: Total is 130 of which 60 are scientists and engineers.

Activities: Development of Extractive Metallurgical Processes based on hydrometallurgy or pressure hydrometallurgy for recovery of Nickel, Copper, Cobalt, Zinc, Uranium, Gold and Platinum group metals; Development of fabricated metal products containing preferably Nickel and Cobalt in form of strip, coinage blanks, metal powders or composite powders, erosion resistant materials and magnetic materials.

Facilities: Chemical metallurgy lab; physical metallurgy lab; analytical lab; pilot plants; development and engineering offices.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

SICO INC.

2505 Métropole, Longueuil, Québec, J4G 1E5.

Sico Inc

Contact: Kenneth Delamater, Vice-President, R&D, Tel: (514) 527-5111.

Personnel: Total is 9 of which 9 are scientists and engineers.

Activities: Research and Development is composed mainly of evaluating new resins, pigments and additives in order to formulate new products for the industrial paint market.

Facilities: Gas chromatograph; liquid chromatograph; spectrophotometer; salt spray cabinet; roller coater - ovens; dispersion equipment.

Current or Potential Work: self or parent.

SIDBEC-DOSCO INC.

507 Place d'Armes, Montréal, Québec, H2Y 2W8.

Service technique

1900 Montée de la Pomme d'Or, Contrecoeur, Québec, J0L 1C0.

Contact: Daniel Turmine, Directeur, Tel: (514) 587-2091.

Personnel: Total is 17 of which 13 are scientists and engineers.

Activities: Technical development in plants: reduction work, steelworks, and rolling and drawing mills. Close co-operation with universities in very specific projects related directly to production methods.

Current or Potential Work: self or parent, R&D for private sector.

Note: Descriptive text has been translated from French.

SILONEX INC.

2150 Ward Street, Montréal, Québec, H4M 1T7.

Silonex R&D Department

Contact: D.A. Anderson, President, Tel: (514) 744-5507.

Personnel: Total is 15 of which 9 are scientists and engineers.

Activities: Photoconductive detector research and development; photovoltaic silicon detectors development; P.V. solar modules development.

Facilities: High temperature furnaces; light energy measurement.

Current or Potential Work: self or parent, R&D for government.

SINCLAIR & VALENTINE

4590 Dufferin Street, Downsview, Ontario, M3H 5S5.

Research Unit

Admin. Contact: Mr. Attilio Paolillo, General Manager Eastern Canada, Tel: (416) 661-3100.

Scientific Contact: Mr. Domingo Chan, R & D Director, Tel: (416) 661-3100.

Personnel: Total is 7 of which 6 are scientists and engineers.

Activities: Formulation of printing inks and coatings for all types of printing presses and substrates in Canada and abroad. Development of environmentally acceptable systems to reduce air pollution caused by photo-chemically reactive solvents.

Facilities: Pye Unicam infrared spectrophotometer; Hewlett - Packard 5840 A gas chromatograph; IBM 7409 scanning colour sensor and IBM 5110 computer.

Current or Potential Work: self or parent.

SMITH & NEPHEW INC.

2100-52nd Avenue, Lachine, Québec, H8T 2Y5.

Smith & Nephew Technical Services Department (Development Division)

Admin. Contact: Mrs J.K. Chiu, Technical Services Manager, Tel: (514) 636-0772.

Scientific Contact: Dr. D. Crosilla, Development Manager, Tel: (514) 636-0772.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Cosmetic formulations; Pharmaceutical test development; Medical device development; Physical test development.

Facilities: High Pressure Liquid Chromatograph; Tensile Pullers (INSTRONS); Infrared Spectrophotometers.

Current or Potential Work: self or parent.

SNC INC.

1, Complexe Desjardins, Montréal, Québec, H5B 1C8.

Technical Development Department SNC Inc.

Admin. Contact: Dr. R. L'Archevêque, Vice-President, Technical Development, Tel: (514) 282-9551.

Scientific Contact: Dr. N. Cooke, Manager, Tech. Development Dept., Tel: (514) 282-9551.

Personnel: Total is 16 of which 14 are scientists and engineers.

Activities: One of the main objectives of the department is to carry out research and development work on the conversion of solid fuels and related materials to other forms of energy. The main areas of expertise are: coal conversion, biomass conversion, and engine development. Other areas of research are: liquid products from natural gas by way of acetylene, enhanced oil recovery, microbial leaching of ores, and separation of oil field emulsions.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

SOCIETE METROHEAT INC.

4609 Iberville Street, Montréal, Québec, H2H 2L9.

Research and Development Laboratory

Admin. Contact: Marcello Paolini, President, Tel: (514) 524-7575.

Scientific Contact: Charles Toeman, Head of Department, Tel: (514) 524-7575.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Researching and developing high efficiency forced warm air heating units; gas and oil fired. Also combination units for bi-energy requirements such as oil-electric, wood-electric. Units that can be either oil or gas fired are being investigated as well as energy transfer units.

Facilities: While no special purpose equipment is used, instrumentation is more than adequate and up to date.
Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

SOCIETE D'ALUMINIUM REYNOLDS (CANADA) LTEE

290, St. Laurent, Cap-de-la-Madeleine, Québec, G8T 7W9.

Département R-D

Admin. Contact: Jean Marchildon, Vice-président, R-D,
Tel: (819) 373-6342.

Scientific Contact: Patrick Corcoran, Gérant, Services
chimiques, Tel: (819) 373-6248.

Personnel: Total is 14 of which 9 are scientists and
engineers.

Activities: Applied research in the manufacturing of
aluminum sheets and foil, and in the printing and
laminating of the aluminum foil.

Facilities: Spectrograph (alloy analysis); infrared
spectrograph (Carmnage oil); gas chromatograph; tensile
tester.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

SOLA CANADA

377 Evans Avenue, Toronto, Ontario, M8Z 1K8.

Engineering Department

Contact: F. Barankin, Manager of Engineering,
Tel: (416) 252-6465.

Personnel: Total is 3 of which 3 are scientists and
engineers.

Activities: Fluorescent ballasts; high intensity discharge
ballasts; voltage regulators.

Facilities: Oscilloscope; test equipment.

Current or Potential Work: self or parent.

SOLCAN LTD

R.R. 3, London, Ontario, N6A 4B7.

Research Unit

RR3, London, Ontario, N6A 4B7.

Contact: R.K. Swartman, President, Tel: (519) 473-0501.

Personnel: Total is 3 of which 3 are scientists and
engineers.

Activities: Heat transfer and fluid mechanics; solar system
design.

Facilities: Doric 205 recorder.

Current or Potential Work: self or parent, R&D for
government.

SONOTEK LIMITED

2410-5 Dunwin Drive, Mississauga, Ontario, L5L 1J9.

Sonotek Ltd

2410-5, Dunwin Drive, Mississauga, Ontario, L5L 1J9.

Admin. Contact: Alec Kitson, President,
Tel: (416) 828-6810.

Scientific Contact: Bob Pickering, Research and
Development Manager, Tel: (416) 828-6810.

Personnel: Total is 6 of which 4 are scientists and
engineers.

Activities: Design and development of computer hardware
and software for industrial and geophysical applications.
Fields of specialization include hardware/software
interfaces to industrial sensors and controls, industrial
data acquisition and process control, airborne
geophysical data acquisition and compensation systems
for airborne magnetic measurements.

Current or Potential Work: self or parent, R&D for
government, R&D for private sector.

SOTELCOM INC.

48 Galaxy Blvd, #402, Rexdale, Ontario, M9W 6C8.

Source Communications Division

48 Galaxy Blvd, # 402, Rexdale, Ontario, M9W 6C8.

Contact: Raymond Wilk, Vice-President, Engineering,
Tel: (416) 675-9222.

Personnel: Total is 6 of which 3 are scientists and
engineers.

Activities: Communication products pertaining to CATV
industry and any broadcast industry.

Current or Potential Work: self or parent.

MC PHAR Division

48 Galaxy Blvd, # 402, Rexdale, Ontario, M9W 6C8.

Admin. Contact: Andrew Stevens, Vice President, MC
PHAR Division, Tel: (416) 675-9222.

Scientific Contact: Pradip Acharya, President, MC PHAR
Division, Tel: (416) 675-9222.

Personnel: Total is 3 of which 2 are scientists and
engineers.

Activities: Geophysical instrumentation.

Current or Potential Work: self or parent.

SPARTON OF CANADA, LIMITED

Box 5125, 100 Elm Street, London, Ontario, N6A 4N2.

Sparton of Canada, Limited, Research and Development Centre

P.O. Box 5125, 100 Elm Street, London, Ontario,
N6A 4N2.

Admin. Contact: C.L.T. Corbin, Vice-President, Director of
Engineering, Tel: (519) 455-6320.

Scientific Contact: Dr. F.E. Bales, Research &
Development Manager, Tel: (519) 455-6320.

Personnel: Total is 52 of which 20 are scientists and
engineers.

Activities: Underwater acoustics; electronic design
(analogue and digital); signal processing; hydrodynamics;
transducers; switch mode and linear power supplies;
radio transmitter, receivers and antennas; electronic
warfare expendables; computerized test equipment.

Facilities: 45,000 gal. Acoustic Test Tank; RF Shielded
Room; Staticombe; Engineering Computer; Extensive
Electronics Laboratories.

Current or Potential Work: self or parent, R&D for
government, non R&D services for government, R&D
for private sector, non R&D services for private sector.

SPERRY INC.

55 City Centre Drive, Mississauga, Ontario, L5B 1M4.

Sperry Inc., Electronic Systems

3150 Miller Ave, Dorval, Québec, H9P 1K5.

Contact: Mr. M. Rubinstein, Group Manager, Engineering,
Tel: (514) 683-7330.

Personnel: Total is 52 of which 14 are scientists and
engineers.

Activities: Engaged in research and development in the
field of power conversion/supplies as applicable to data
processing equipment.

Facilities: Power conversion - Dorval; conducted EMI
test facility - Dorval.

Current or Potential Work: self or parent.

Sperry Electronic Systems

Hwy 17, PO Box 1300, Rockland, Ontario, K0A 3K0.

Contact: Mr. Barry Thomson, Engineering Manager,
Tel: (613) 446-6011.

Personnel: Total is 223 of which 14 are scientists and
engineers.

Activities: Data and voice communications; Real time
simulation and training products.

Facilities: Microcomputer development systems.

Current or Potential Work: self or parent, R&D for
government, non R&D services for government.

ST-LAWRENCE CEMENT

1945 Graham Blvd, Mont-Royal, Québec, H3R 1H1.

Ciment Independent Inc.

966 Chemin des Prairies, C.P. 480, Joliette, Québec, J6E 6H7.

Admin. Contact: G. Bernardin, Director, R&D,
Tel: (514) 340-1881.

Scientific Contact: R. Morin, Chief Chemist,
Tel: (514) 878-4421.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: This unit utilizes physical and chemical laboratories for testing of cement and concrete. These facilities are also used for innovations in cement production and quality. In parallel, the concrete laboratory is used for performance evaluation of concretes containing different admixtures for improvement in concrete strength, durability, architectural aspect, facility of use etc.

Facilities: Hydraulic press 0-500,000 lbs.; atomic absorption spectrometer; X-Ray fluorescence spectrometer.

Current or Potential Work: self or parent, R&D for government.

St. Lawrence Cement Inc.

2391 Lakeshore Road West, Mississauga, Ontario, L5J 1K1.

Admin. Contact: G. Bernardin, Director, R&D,
Tel: (514) 340-1881.

Scientific Contact: L. Zimmerman, Chief Chemist,
Tel: (416) 822-1653.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: This unit utilizes physical and chemical laboratories for testing of cement and concrete. These facilities are also used for innovations in cement production and quality. In parallel, the concrete laboratory is used for performance evaluation of concretes containing different admixtures for improvement in concrete strength, durability, architectural aspect, facility of use etc.

Facilities: Perkin Aylmer 460 Atomic Abs.; X-Ray fluorescence spectrometer; Tinius-Olsen hydraulic press — 250,000.

Current or Potential Work: self or parent, R&D for government.

Ciment St-Laurent Inc.

1300 boul. Ste-Anne, C.P. 1156, Beauport, Québec, G1K 7C9.

Admin. Contact: G. Bernardin, Director, R&D,
Tel: (514) 340-1881.

Scientific Contact: G. Bussi res, Chief Chemist,
Tel: (418) 663-7831.

Personnel: Total is 1 of which 1 is a scientist or engineer.

Activities: This unit utilizes physical and chemical laboratories for testing of cement and concrete. These facilities are also used for innovations in cement production and quality. In parallel, the concrete laboratory is used for performance evaluation of concretes containing different admixtures for improvement in concrete strength, durability, architectural aspect, facility of use etc.

Facilities: Hydraulic Press 0-300,000 lbs.; Perkin Aylmer 460 Atomic Abs; Philipps PW-1212 X-Ray Fluorescence.

Current or Potential Work: self or parent, R&D for government.

ST. MARY'S CEMENT COMPANY

2200 Yonge St., Toronto, Ontario, M4S 2C6.

Engineering and Research Division

104 Waverly Rd, Suite 106, Bowmanville, Ontario, L1C 3W0.

Admin. Contact: J.O. Down, Vice-President, Engineering and Research, Tel: (416) 623-1722.

Scientific Contact: W.J. Prout, Manager, Research and Quality Control, Tel: (519) 284-1020.

Personnel: Total is 7 of which 3 are scientists and engineers.

Activities: Internal projects related to the manufacture and use of Portland Cement.

Current or Potential Work: self or parent.

STAKE TECHNOLOGY LTD

208 Wycroft Road, Oakville, Ontario, L6K 3T8.

Research Unit

Admin. Contact: Lisa Glazier, Office Manager,
Tel: (416) 842-4560.

Scientific Contact: W.J. Esdale, Vice-President,
Tel: (416) 842-4560.

Personnel: Total is 8 of which 3 are scientists and engineers.

Activities: A process to convert waste biomass into cattlefeed.

Current or Potential Work: R&D for government.

STANGE CANADA INC.

3340 Orlando Dr., Mississauga, Ontario, L4V 1C7.

Research Unit

Admin. Contact: R. Sinclair, Senior Vice President,
Tel: (416) 678-1220.

Scientific Contact: M. Neale, Mgr. Research & Analytical Service, Tel: (416) 678-1220.

Personnel: Total is 10 of which 10 are scientists and engineers.

Activities: Spices; essential oil; flavours; analytical methods development.

Facilities: Computerized G.C.; H.P.L.C.; thin film evaporator (spinning ban); sensory evaluation laboratory; experimental thermal processing equipment.

Current or Potential Work: self or parent, non R&D services for private sector.

STATE INDUSTRIES LTD

1104 Wall St., Winnipeg, Manitoba, R3E 2R9.

Research Unit

Contact: Mr. S.L. Baldwin, P.Eng., President,
Tel: (204) 774-1211.

Personnel: Total is 7 of which 2 are scientists and engineers.

Activities: Rock Drill Muffler design development and production facilities; vibration isolation in hand-held Rock Drills; vibration isolation in electric and off-road vehicles; electrical isolation components of trolley buses; elastomers in all aspects of underground mining equipment; elastomer product research design development specializing in polyurethane and silicone rubbers.

Facilities: Sound level testing; vibration testing.

Current or Potential Work: self or parent, R&D for private sector.

STELCO INC.

P.O. Box 2030, Station A, Hamilton, Ontario, L8N 3T1.

Stelco Inc., Research and Development

Contact: Mr. J.C. McKay, Director, Research and Development, Tel: (416) 528-2511.

Personnel: Total is 109 of which 41 are scientists and engineers.

Activities: Applied research and development in steel products and processes, comprising coke, iron, steel,

casting and metallurgical processing/technologies including; hot rolling, forging and extrusion; cold rolling, drawing and forming; heat treatment and annealing; metallic and polymer coating; corrosion control; welding; fabrication and finishing; instrumentation, process control and computer applications.

Facilities: Steelmaking furnaces (up to 3-ton) ladles and moulds; mini rolling mill; scanning electron microscope with energy dispersive X-Ray analyzer; electron probe microanalyzer; automated fatigue tester; micro-computer development system.

Current or Potential Work: self or parent.

STERLING DRUG LTD.

400 Young St. S., Aurora, Ontario, L4G 3H6.

Medical Dept.

Contact: Dr. K.B. Nguyen, Vice-President, Medical Affairs, Tel: (416) 773-1122.

Personnel: Total is 20 of which 9 are scientists and engineers.

Activities: Clinical research and pharmaceutical development of new and marketed drugs.

Facilities: Pharmaceutical development lab.

Current or Potential Work: self or parent.

STERLING LIMITED

P.O. Box 554, 5-9 Philip St., St. Catharines, Ontario, L2R 6X1.

Industrial Paints & Insulating Varnishes Research & Development Laboratory

Contact: J.E. Hanson, President, Tel: (416) 684-2322.

Personnel: Total is 7 of which 6 are scientists and engineers.

Activities: Research and development of industrial coatings including high solids and water reduced formulae.

Current or Potential Work: self or parent.

Powder Coatings Research and Development Laboratory

Contact: J.E. Hanson, President, Tel: (416) 684-2322.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Research and development of powder coating technology.

Current or Potential Work: self or parent.

STERNSON LIMITED

22 Mohawk Street, P.O. Box 130, Brantford, Ontario, N3T 5N1.

Research & Development Laboratory

Admin. Contact: N.P. Mailvaganam, Vice President of Research & Development, Tel: (519) 759-6600.

Scientific Contact: M.F. Flynn, Senior Group Leader, Tel: (519) 759-6600.

Personnel: 8 scientists and engineers.

Activities: Cement and concrete chemistry and materials properties; urethane; epoxy and hybrid polymers; polymer lattice. Nature - cement study of the influence of chemicals on the hydration of cement, synthesis of hybrid urethane-epoxy polymers and study of the mechanical properties.

Facilities: I.R. spectrophotometer; instron; atomic absorptometer.

Current or Potential Work: self or parent.

STRITE INDUSTRIES LIMITED

298 Shepherd Ave., Cambridge, Ontario, N3C 1V1.

Research Unit

298 Shepherd Ave, Cambridge, Ontario, N3C 1V1.

Admin. Contact: J.D. Strite, President, Tel: (519) 658-9361.

Scientific Contact: A.A. Hills, Engineer,

Tel: (519) 658-9361.

Personnel: Total is 5 of which 1 is a scientist or engineer.

Activities: Development and prototyping of small (1 cu.ft. max) mechanical components and assemblies requiring a high degree of accuracy and involving ultra precision machining, and having potential future production volumes.

Facilities: Leak and pressure test equipment; laser welding; form grinders.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

STUART PLASTICS LTD

7435 Lowland Drive, Burnaby, B.C., V5J 5A8.

Research Unit

1031 Quebec Street, New Westminster, B.C., V3M 1K6.

Admin. Contact: Mr. Sanders, General Manager,

Tel: (604) 437-5029.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Developing specialized coloured copolymer pellets and associated recoat materials.

Facilities: Blenders; extrusion equipment; spectro-photometer.

Current or Potential Work: self or parent, R&D for private sector.

SUN-RYPE PRODUCTS LTD

1165 Ethel St., Kelowna, B.C., V1Y 7N6.

Research & Development Laboratory

Admin. Contact: Lawrence Bates, Marketing Manager,

Tel: (604) 762-2604.

Scientific Contact: Joan Dolson, Product Development

Coordinator, Tel: (604) 762-2604.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: New product development; product improvement; assist in production improvements.

Facilities: Can closing machine; spectro photometer; tintometer; dissolved oxygen meter; gas and liquid chromatographs.

Current or Potential Work: self or parent.

SWAN WOOSTER ENGINEERING CO. LTD.

1190 Hornby Street, Vancouver, B.C., V6Z 2H6.

Mechanical/Electrical Division

1190 Hornby, Vancouver, British Columbia, V6Z 2H6.

Scientific Contact: C. William McLachlan, Manager and Engineer, Tel: (604) 684-9311.

Personnel: Total is 8 of which 6 are scientists and engineers.

Activities: Shiploading concepts; materials handling equipment; computer programs for conveyors, materials handling equipment; robotics applications; computer aided control systems; maintenance programs; machine vibration and dynamic stress analysis; bulk materials slurry handling systems; heat pumps, air compressors, heat transfer.

Facilities: Computer hardware and software including: PDP 11/44; main frame links; various computer languages.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Grain Department

1190 Hornby, Vancouver, British Columbia, V6Z 2H6.

Contact: Joel A. Cawker, Manager, Tel: (604) 684-9311.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: 1. Operations simulation: model of grain terminals in Port of Vancouver to aid B.C. Shippers' Clearance Association; model of CWB block shipping system. 2. Mechanical: modifications to gates on Fabco

hopper cars; automated grain grading; automated cleaners; shiploader dust control.

Facilities: Computer hardware and software including: PDP 11/44; Main frame links; various computer languages.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Offshore & Arctic Department

1190 Hornby, Vancouver, British Columbia, V6Z 2H6.

Admin. Contact: John C. Bruce, Manager,

Tel: (604) 684-9311.

Scientific Contact: Norman F.B. Allyn, Project Manager, Tel: (604) 684-9311.

Personnel: Total is 9 of which 9 are scientists and engineers.

Activities: Ice mechanics; Arctic structures; Arctic materials development for resisting high ice pressures and forces; ice/structure interactions; model test design and supervision in labs in Calgary and Ottawa; field test design and supervision in Canadian and Alaskan Beaufort Seas.

Facilities: Computer hardware and software including: PDP 11/44; IBM XT PCs; main frame links; FLEX, SLAM, etc. computer languages.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Planning and Resources Department

1190 Hornby, Vancouver, British Columbia, V6Z 2H6.

Admin. Contact: Chris Stanton, Manager,

Tel: (604) 684-9311.

Scientific Contact: Brian A. Radomske, Simulation Specialist, Tel: (604) 684-9311.

Personnel: Total is 6 of which 5 are scientists and engineers.

Activities: The R&D performed within this unit is concerned with computer software development for transportation systems with emphasis on comparative transportation costs. Examples of this research include: a) Unit train route/costing model to study alternative rail routes to move bulk commodities. An extension of this model for way freight and transfer trains for more general freight movements of mixed commodities has been made. b) Vessel traffic movement model to study vessel congestion and harbour capacity for mixed pleasure and commercial traffic. c) Ocean voyage costing model. d) Simulation of port terminal operations to study alternative equipment schemes for bulk commodity handling.

Facilities: Computer hardware and software including: PDP 11/44; main frame links; various computer languages.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Ports & Marine Department

1190 Hornby, Vancouver, British Columbia, V6Z 2H6.

Admin. Contact: Jim Armstrong, Manager,

Tel: (604) 684-9311.

Scientific Contact: Carlos Johansen, Assistant Manager, Tel: (604) 684-9311.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: 1. Wave hindcasting of sea states from wind field data. 2. Modification of refraction, diffraction, shoaling and frictional attenuation. This modification is performed by numerical techniques. 3. Prediction of alongshore and on/offshore sediment transport rates. 4. The prediction of local and general scour around structures. 5. The formulation of 1 and 2-dimensional tidal current models. 6. The evaluation of wave forces on large structures.

Facilities: Computer hardware and software including: PDP 11/44; main frame links; various computer languages.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Datap Systems (a division of Swan Wooster Consultants Ltd.)

1190 Hornby, Vancouver, British Columbia, V6Z 2H6.

Admin. Contact: Douglas Smith, Manager,

Tel: (604) 688-7751.

Scientific Contact: T.W. Engelhart, Manager Special Projects, Tel: (604) 688-7751.

Personnel: Total is 8 of which 5 are scientists and engineers.

Activities: Supervisory control and data acquisition; operations management, as related to real time control and information systems; operations simulation and modelling, as applied with real time control systems; computer aided dispatch of vehicular traffic via radio.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

SYDNEY DEVELOPMENT CORP.

600-1385 W 8th Ave, Vancouver, B.C., V6H 3V9.

Research Unit

600-1385 West 8th Ave., Vancouver, B.C., V6H 3V9.

Contact: T. Haksi P.Eng., Vice-President, R&D,

Tel: (604) 734-8822.

Personnel: Total is 60 of which 40 are scientists and engineers.

Activities: All R&D work revolves around computer software. The fields of endeavour range from improved development methodologies and technologies to integrated hardware and software for communications. In addition, significant effort is being expended on education structure and presentation using a computer medium.

Facilities: Mainframe computer; minicomputers; micro computers.

Current or Potential Work: self or parent, R&D for private sector.

SYDNEY STEEL CORPORATION

P.O. Box 1450, Sydney, Nova Scotia, B1P 6K5.

Metallurgical Dept.

Contact: Dr. J. Strasser, Director of Metallurgy,

Tel: (902) 564-5471.

Personnel: Total is 20 of which 5 are scientists and engineers.

Activities: Rail research; chemical analysis; metallographic analysis; mechanical testing; ceramics.

Facilities: Hydrogen analyzer; HP 3000 computer; LECO Carbon/S analyzer.

Current or Potential Work: self or parent.

SYNCRUDE CANADA LTD

P.O. Box 4009, Fort McMurray, Alberta, T9H 3L1.

Syncrude Research and Development

P.O. Box 5790, Edmonton, Alberta, T6C 4G3.

Admin. Contact: P.J. Bates, Information Spec.,

Tel: (403) 464-8400.

Scientific Contact: Dr. J.K. Liu, Manager, R&D Services, Tel: (403) 464-8452.

Personnel: Total is 219 of which 126 are scientists and engineers.

Activities: Research and Development of Mining of surface mineable oil sands, extraction of the oil from the oil sand ore and upgrading of the recovered heavy oil.

Facilities: Cold room (-40 deg C); materials testing facilities; oil sands extraction pilot plant; bitumen upgrading pilot plants.

Current or Potential Work: self or parent, R&D for government.

SYNDEL LABORATORIES LTD

8879 Selkirk St., Vancouver, B.C., V6P 4J6.

Research Unit

8879 Selkirk Street, Vancouver, B.C., V6P 4J6.

Admin. Contact: J.M. Little, President,

Tel: (604) 266-7131.

Scientific Contact: S.K. Foo, Sr. Researcher,

Tel: (604) 266-7131.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: CURRENT R&D - Biochemistry - peptide synthesis; natural product extraction, both plant and animal; DNA purification, deoxynucleoside preparation; trace tetracycline derivatives detection; non-mammalian hormones isolation and purification; bone and flesh (fish) - uptake of therapeutic drugs. Expertise in fish and fish related research. Expertise in organic syntheses. Expertise in fish and plant toxins (as produced by fish and plants).

Facilities: HPLC (Picogram Detection Analytical and Prep.); liquid scint. counter; freeze dryer; refrigeration; UV/VIS spectrophotometer; electrophoresis.

Current or Potential Work: self or parent, R&D for government.

SYNERLOGIC INC.

635-8th Avenue S.W., suite 200, Calgary, Alberta, T2P 3M3.

Productivity Software Research and Development

Contact: Ken Burnett, Manager R&D, Tel: (403) 237-6500.

Personnel: Total is 12 of which 8 are scientists and engineers.

Activities: The research and development of software tools and techniques to enable applications software to be prototyped and built in a simpler faster manner. Particular emphasis is upon on-line, data base independent tools.

Current or Potential Work: self or parent, R&D for private sector.

SYNTEX INC.

2100 Syntex Court, Mississauga, Ontario, L5N 3X4.

Research Unit

Admin. Contact: Howard Jeffery, President,

Tel: (416) 821-4000.

Scientific Contact: Allen Krantz, Research Director,

Tel: (416) 821-4000.

Personnel: Total is 20 of which 20 are scientists and engineers.

Activities: Syntex Research (Canada) is engaged in the design of specific enzyme inhibitors targeted for clinically relevant enzymes. This research is of a fundamental nature and involves the design (based on organic and enzyme reaction mechanisms), the synthesis and the testing of novel compounds that block enzyme activity. We are interested broadly in human pharmaceuticals and veterinary medicine.

Current or Potential Work: self or parent.

SYSTEME ELECTRONIQUE RAYCO LTEE

Bernières, Québec, G0S 1C0.

Recherche et développement

1370, chemin Filteau, Bernières, Québec, G0S 1C0.

Admin. Contact: Normand Hinse, Administration des opérations, Tel: (418) 831-6137.

Scientific Contact: Paul Poulin, Responsable de la R-D, Tel: (418) 831-6137.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Lifting equipment such as power shovels and cranes are frequently involved in accidents on construction sites. Our work is aimed at developing systems or equipment designed to prevent accidents on the job.

Facilities: No special equipment other than development systems (Motorola microprocessors: 6802-6805-6809), basic instrumentation and a fully-equipped machining workshop.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Note: Descriptive text has been translated from French.

T E S LIMITED

2548 Sheffield Road (P.O. Box 9372), Ottawa, Ontario, K1G 3V1.

Research Unit

Contact: L.A. Garland, President, Tel: (613) 741-9402.

Personnel: Total is 40 of which 20 are scientists and engineers.

Activities: T E S Limited is a Canadian-owned firm, incorporated in 1975 to provide professional engineering services to government and industry. Our demonstrated capabilities include: research and development, testing and monitoring; engineering studies and failure analysis; design services and prototype and low volume production in the following areas: alternative energy systems and conservation techniques, vehicle and related systems, instrumentation, test equipment and data acquisition systems.

Facilities: Computer, DEC LSI 11/23; Mobile Data Acquisition System.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

T.R.W. CANADA LIMITED CARR DIVISION

455 Arvin Ave, Box 9900, Stoney Creek, Ontario, L8G 3Y4.

TRW Canada Research and Development Lab.

455 Arvin Ave, Stoney Creek, Ontario, L8G 3Y4.

Contact: Mario Guarasci, Director R&D,

Tel: (416) 664-4401.

Personnel: Total is 41 of which 2 are scientists and engineers.

Activities: Design and develop electronic and electromechanical controls for the automotive industry and the appliance industry. Specialize in mechanical packaging, electromechanical devices (relays and switches), and electronic timing and R.P.M. sensing circuits.

Facilities: CAD CAM (4 terminals); plastic molding (for prototypes).

Current or Potential Work: self or parent.

TANTALUM MINING CORPORATION OF CDA LTD

Box 2000, Lac du Bonnet, Manitoba, R0E 1A0.

Tantalum Mining Corporation of Canada Ltd

P.O. Box 2000, Lac du Bonnet, Manitoba, R0E 1A0.

Contact: Mr. R.O. Burt, General Manager,

Tel: (204) 345-8526.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Mineral processing - gravity concentration methods, industrial minerals flotation.

Facilities: U-V; I-R; XRF, A-A analytical equipment; specialized gravity concentration equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

TARGA ELECTRONICS SYSTEMS INC.

P.O. Box 8485, 3101 Hawthorne Rd, Ottawa, Ontario, K1G 3H9.

Research Unit

Admin. Contact: Susan Lemenchick, Director of Finance,
Tel: (613) 731-9941.

Scientific Contact: Bill Foster, Director of Engineering,
Tel: (613) 731-9941.

Personnel: Total is 7 of which 4 are scientists and engineers.

Activities: Bubble memory applications technology. Solid state non-volatile memory applications technology. Particular areas of investigation include extension of operating temperature range, reduction of power supply requirements, development of packaging technology to reduce size and increase ruggedness.

Facilities: Temperature chamber; microprocessor development laboratory.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

TECHNO SCIENTIFIC INC.

205 Champagne Drive #1, Downsview, Ontario, M3J 2C6.

Research Unit

205 Champagne Dr. #1, Downsview, Ontario, M3J 2C6.

Contact: Dr. Mirek Macecek, President,
Tel: (416) 635-7626.

Personnel: Total is 12 of which 8 are scientists and engineers.

Activities: Ultrasonics, transducers, sensors, NDE methods, robotics, robotic welding, process control.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

TEKTRON EQUIPMENT CORPORATION

230 Arvin Avenue, Stoney Creek, Ontario, L8E 2L8.

Research Unit

Contact: Anthony Tekatch, Design Manager,
Tel: (416) 662-7820.

Personnel: Total is 5 of which none are scientists and engineers.

Activities: Microprocessor based industrial control systems; microprocessor based consumer products.

Facilities: Tektronix development system; Gerber CAD system.

Current or Potential Work: self or parent, R&D for private sector.

TELE-RADIO SYSTEMS LIMITED

121 Hanlan Rd, Woodbridge, Ontario, L4L 3P5.

Engineering Dept.

Contact: I.H. Nixon, President, Tel: (416) 851-2231.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Development of products for the telecommunications and electric power industries.

Current or Potential Work: self or parent.

TELEFLEX (CANADA) LTD

1650 West 2nd Ave, Vancouver, B.C., V6J 1H4.

Servo hydraulics

Admin. Contact: H.G.A. Copping, General Manager,
Tel: (604) 736-2831.

Scientific Contact: J. McBeth, Engineering Manager,
Tel: (604) 736-2831.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Computer assisted analysis of dynamics of servo positioning systems with various alternative valve characteristics.

Facilities: Servo cylinder test stand; electronic control equipment; PC computer c/w graphics.

Current or Potential Work: self or parent.

THE BAE GROUP

53 Bond Street, St. John's, Newfoundland, A1C 6H3.

Research Unit

Admin. Contact: Walter Tucker, Business Development Manager, Tel: (709) 722-4622.

Scientific Contact: Douglas Morris, Chief Mechanical Eng.,
Tel: (709) 722-4622.

Personnel: Total is 15 of which 8 are scientists and engineers.

Activities: 1. Develop computerized ship hold fish containerisation system. 2. Develop fluidised salt fish dryer. 3. Develop computerized storage and retrieval system for ship and truck containers.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

THE GRIFFITH LABORATORIES, LIMITED

757 Pharmacy Avenue, Scarborough, Ontario, M1L 3J8.

R&D Department

Contact: John Holme, Ph.D., Vice-President, Technical,
Tel: (416) 288-3330.

Personnel: Total is 36 of which 20 are scientists and engineers.

Activities: Cereal Science - Baked products, processed cereal products; Food Science - Formulation and processing conditions for food products; Chemical Engineering - Unit operations, pilot plant design, plant design, extrusion; Chemistry - Analytical, physical, organic; Microbiology - fermentation; Biochemistry - Enzymes, physical biopolymers; Flavour - Composition and identification.

Facilities: GLC and HPLC equipment; spectrophotometers; texture measurement devices; extrusion pilot plant; bakery pilot plant; meat processing equipment.

Current or Potential Work: self or parent.

THEODOR D. STERLING LTD

70-1507 W. 12th Avenue, Vancouver, B.C., V6J 2E2.

TDS Limited

Admin. Contact: Elia Sterling, Director, Building Research,
Tel: (604) 733-2701.

Scientific Contact: Theodor D. Sterling, Ph.D., Director,
Tel: (604) 733-1348.

Personnel: Total is 14 of which 7 are scientists and engineers.

Activities: 1) Factors relating to health and comfort in office buildings and residences, including industrial hygiene surveys. 2) Use of information contained in large scale data bases for design of systems or for policy decisions. 3) Mathematical and statistical evaluation of existing data bases. 4) Development of computer software for 2 & 3 above. 5) Conduct of actual experiments on health and welfare related design problems.

Facilities: Direct access to large main frame university computers; direct access to needed scientific engineering measuring equipment.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

THERAPEX INC.

9855 Colbert St., Ville D'Anjou, Québec, H1J 1Z9.

Therapex Inc. - R&D unit

Admin. Contact: Michèle Lalande, Assistant to President,

Tel: (514) 353-5820.

Scientific Contact: Jérémie Tremblay, Scientific Director,
Tel: (514) 353-5820.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Development of barium sulfate formulations for gastro-intestinal X-Ray procedures. Development of pharmaceutical and cosmetic formulations.

Current or Potential Work: self or parent, non R&D services for private sector.

THOMPSON FOSS INCORPORATED

Suite 101 - 56 Sparks Street, Ottawa, Ontario, K1P 5A9.

Computer Systems Research Institute (CSRI) Unit

2101-10 Kings College Rd; U of T; Sandford Fleming Bldg, Toronto, Ontario, M5S 1A4.

Admin. Contact: R. Wessels, Office Manager,

Tel: (416) 978-4921.

Scientific Contact: E.S. Lee, Software Director,

Tel: (416) 978-5035.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Computer language design and development; trusted computer operating systems; trusted software design; computer and data system security; data encryption systems.

Facilities: Access to a wide range of CAD equipment and computer systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Scarborough Unit

Unit 15, 31A Passmore Avenue, Scarborough, Ontario, M1V 3H3.

Admin. Contact: C. Steele, Office Manager,

Tel: (416) 291-5928.

Scientific Contact: W.E. Davidson, General Manager,

Tel: (416) 291-5928.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Computer system design; computer aided manufacturing; data communication equipment; microprocessor systems; military applications.

Facilities: Access to a wide range of CAD equipment and computer systems.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

THORLAKSON FEEDYARDS - RESEARCH FEEDLOT

Box 1660, Airdrie, Alberta, T0M 0B0.

Thorlakson Feedyards

Contact: Ben E. Thorlakson, President,

Tel: (403) 948-5434.

Personnel: Total is 4 of which 1 is a scientist or engineer.

Activities: Ruminant nutrition; efficacy of growth promotants, feed additives and animal health products for cattle.

Facilities: Research Feedlot (Cattle) (48 pens).

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

TIL SYSTEMS LIMITED

60 Yonge Street, Suite 1100, Toronto, Ontario, M5E 1H5.

Research Unit

Admin. Contact: Marion Lash, Secretary-Treasurer,

Tel: (416) 869-1157.

Scientific Contact: Peter Stevens, Vice-President,

Engineering, Tel: (416) 869-1157.

Personnel: Total is 15 of which 10 are scientists and engineers.

Activities: Design of communications computer terminals, specifically for X-25 networks; design of software emulations e.g. IBM 3270, Tektronix, Datagen, Soroc, Teletype, etc.; design of computer systems - customized; design of applications programs - standardized and customized.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

TILTASCREEN LTD

55 Taber Rd, Unit B, Rexdale, Ontario, M9W 3A7.

Solar Studies

25 Taber Rd, Unit B, Rexdale, Ontario, M9W 3A7.

Contact: R. McCurdy, President, Tel: (416) 742-2310.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: Solar collector design using molded and cast acrylics; structural adhesives.

Facilities: Vac former; pressure test beds.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

TIMBERJACK, DIV OF EATON YALE LTD

925 Devonshire Avenue, Woodstock, Ontario, N4S 7X1.

Technical Services Department

925 Devonshire Ave, Woodstock, Ontario, N4S 7X1.

Admin. Contact: P.H. Whitcomb, Manager of Engineering,

Tel: (519) 537-6271.

Scientific Contact: V.P. Besenscheck, Technical Services

Manager, Tel: (519) 537-6271.

Personnel: Total is 93 of which 14 are scientists and engineers.

Activities: Off road vehicle design (forestry equipment development, mining vehicles and specialized utility vehicles). Field test data acquisition, real time engineering, laboratory testing (stress analysis - static and dynamic, dynamometer testing - HP curves, engine cooling systems performance, air conditioner heatload analysis, and engine installations approvals). Certification testing such as ROPS, FOPS, OPS, brake performances to CSA, SAE and ISO requirements. Prototyping and model making for the purpose of evaluation and testing.

Facilities: Field data acquisition - portable; laboratory data acquisition 25KH2; real time computer (HP1000-A600); proving grounds 30 hectares; testing room (adjustable mountings) climate controlled 8m wide x 15m long.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

TIOXIDE CANADA INC.

1690 Marie Victorin, Tracy, Québec, J3P 5P8.

Tioxide Canada Inc. - Service technique

Contact: Guy Gauthier, Surintendant technique,

Tel: (514) 742-2711.

Personnel: Total is 13 of which 6 are scientists and engineers.

Activities: Find new methods for the production of titanium dioxide; produce new titanium dioxide pigments; treat waste water; and develop formulas for the preparation of paint.

Facilities: Transmission electron microscope; X-ray unit, diffraction.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

TNT DEVELOPMENTS LTD

Commerce Drive, Steinbach, Manitoba, R0A 2A0.

Research Unit

Admin. Contact: Mr. Mitch Toews, Vice-President,

Tel: (204) 326-1186.

Scientific Contact: Mr. Norman Toews, President,

Tel: (204) 326-1186.

Personnel: Total is 3 of which 1 is a scientist or engineer.

Activities: Manufacture and refinement of process and end product in the production of rigid urethane foam, poured-in-place, sheathed panels for use as a dynamic component in a building, i.e., door, louvre, etc.; on-going R&D aimed at product improvement.

Facilities: Manufacturing facility; prototype testing facility.

Current or Potential Work: self or parent, R&D for private sector.

TORCAN CHEMICAL LTD

P.O. Box 308, 110 Industrial Parkway N., Aurora, Ontario, L4G 1X9.

Research Unit

110 Industrial Parkway North, Aurora, Ontario, L4G 1X9.

Contact: Dr. R. Kubela, President, Tel: (416) 727-9417.

Personnel: Total is 11 of which 8 are scientists and engineers.

Activities: Pharmaceutical chemistry.

TORCHINSKY CONSULTING (1976) LTD

310 Athabasca Ave, Sherwood Park, Alberta, T8A 3X7.

Research Unit

Contact: Gabe Rohr, Branch Manager,

Tel: (403) 464-4550.

Personnel: Total is 5 of which 5 are scientists and engineers.

Activities: Highway and road engineering and design.

Facilities: In-house computer for design work; terminal to mainframe computer for design work.

TRANS-CANADA RESOURCES LTD

200, 708-11 Ave S.W., Calgary, Alberta, T2R 0E4.

Research and Development Division

208, 601-17 Ave S.W., Calgary, Alberta, T2S 0B3.

Contact: Mr. Dan Williamson, Manager; R&D,

Tel: (403) 231-9425.

Personnel: Total is 10 of which 6 are scientists and engineers.

Activities: Trans-Canada Resources Research and Development is engaged primarily in study of products and systems used in oil and gas well drilling fluids. However, we are also engaged in corrosion research, heavy oil recovery and drilling fluids solids control work.

Facilities: High temperature/high pressure filtration unit; high temperature/high pressure viscometer; particle size analysis.

Current or Potential Work: self or parent, non R&D services for private sector.

TRENCH ELECTRIC

71 Maybrook Drive, Scarborough, Ontario, M1V 2L5.

Trench Electric Coil Division R&D Dept.

71 Maybrook Dr., Scarborough, Ontario, M1V 2L5.

Admin. Contact: M. Stedman, Director,

Tel: (416) 298-8108.

Scientific Contact: R. Dudley, Chief Engineer,

Tel: (416) 298-8108.

Personnel: Total is 8 of which 7 are scientists and engineers.

Activities: Basic research and development engineering

(coil product development) basic technical areas are: materials research (aging studies, static and dynamic performance), losses (measurement and circulation), fields analysis, mechanical-structural, computer aided simulation, power system performance (eg. RI filter design and development), coupled circuit analysis, high voltage research, research on insulation systems, conductors research (conductor systems for aircore coils), manufacturing process R&D.

Facilities: Instron; high voltage tracking wheel; high voltage impulse generators up to 3 mv; low voltage high capacity impulse generator; power lab up to 50 mva (20kv); environmental chambers and thermal aging ovens; corona room; high frequency inverter; high frequency and power frequency loss measurement.

Current or Potential Work: self or parent, R&D for government.

TRI-CANADA INC.

6500 Northwest Dr., Mississauga, Ontario, L4V 1K4.

Research Unit

650 Northwest Dr., Mississauga, Ontario, L4V 1K4.

Contact: Barrie Fisher, P. Eng., Director of Engineering, Tel: (416) 677-9000.

Personnel: Total is 2 of which none are scientists and engineers.

Activities: The Tri-Canada Inc. R&D unit is a small function within the engineering department at headquarters. The nature of its activities is engineering development rather than scientific, and is devoted to products, equipment and systems, related to fluid flow, heat transfer, instrumentation and control. This includes pumps, valves, pneumatic and hydraulic controls, and all other items of a proprietary nature. New product development is also performed by this unit.

Facilities: All custom designed and built.

Current or Potential Work: self or parent.

TRIMAG CONSULTANTS LTD.

4141 Sherbrooke St W, Suite 255, Westmount, Québec, H3Z 1B8.

Research Unit

4141 Sherbrooke St. West, Suite 255, Westmount, Québec, H3Z 1B8.

Contact: Keith C. Carrier, President, Tel: (514) 931-3853.

Personnel: Total is 23 of which 14 are scientists and engineers.

Activities: The company is dedicated to the ongoing development of state-of-the-art project management applications software.

Facilities: VAX 11/750; TI-12; TI-10A.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Research Unit

Ste 1300, Royal Trust Tower, Edmonton Tower, Edmonton, Alberta, T5J 2Z2.

Contact: Donald G. Horner, Manager, Tel: (403) 421-8719.

Personnel: Total is 10 of which 5 are scientists and engineers.

Activities: The company is dedicated to the ongoing development of state-of-the-art project management applications software.

Facilities: HP3000; TI-10A.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

TRIPLE CROWN ELECTRONICS INC.

4560 Fieldgate Drive, Mississauga, Ontario, L4W 3W6.

Research Unit

Admin. Contact: Charles Evans, President,
Tel: (416) 629-1111.
Scientific Contact: Karl Poirier, Vice-President;
Engineering, Tel: (416) 629-1111.
Personnel: Total is 12 of which 6 are scientists and engineers.
Activities: Radio frequency signal processing and amplification for TV and FM receiver and distribution application in the VHF, UHF and microwave bands.
Current or Potential Work: self or parent.

TROJAN TECHNOLOGIES INC

845 Consortium Court, London, Ontario, N6E 2S8.

Research Unit

Admin. Contact: David Holden, Controller,
Tel: (519) 685-6660.
Scientific Contact: G. Elliott Whitby, Micro Biologist,
Tel: (519) 685-6660.
Personnel: Total is 2 of which 2 are scientists and engineers.
Activities: Research of the use of high intensity ultra violet lamps as a means of sterilizing water and other liquids. Other means of sterilization such as chemical means in conjunction with UV; dionization will be researched as well.
Current or Potential Work: self or parent, R&D for government.

TURBO RESOURCES LTD, LUBRICANTS MARKETING DIVISION

Box 5827, Station L, Edmonton, Alberta, T6C 4G3.

Turbo Lubrefinery, Technical Services

Admin. Contact: Mr. Richard Schopff, General Manager,
Tel: (403) 468-5087.
Scientific Contact: Mr. Douglas Cameron, Technical Manager, Tel: (403) 466-2114.
Personnel: Total is 2 of which 2 are scientists and engineers.
Activities: Used lube oil re-refining; product development based on re-refined base oils; recycling of waste materials.
Current or Potential Work: self or parent.

ULTRA LASERTECH INC.

6415-2 Viscount Road, Mississauga, Ontario, L4V 1K8.

Research Unit

Contact: R.A. Crane, President, Tel: (416) 677-8091.
Personnel: Total is 8 of which 5 are scientists and engineers.
Activities: CO₂ Lasers, sealed-off, to 100 watts; CO₂ waveguide lasers; ceramic and glass laser structure designs; laser systems - communications, radar, lidar, etc.; industrial laser applications; high power laser modelling and design; laser based photoacoustic detectors and systems; atmospheric studies; manufacturing processes - ceramic to ceramic, ceramic to metal, ceramic to glass sealing - high temperature hard seals; wavelength tunable CO₂ lasers and automatic control; far infrared lasers; CO lasers.
Facilities: CO₂ Lasers; high temperature sealing facilities; power supplies; photoacoustic equipment; tunable, high power lasers (CO₂); electronic processing gear, etc.
Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

UNIES LTD

1666 Dublin Ave, Winnipeg, Manitoba, R3H 0H1.

Unies Ltd.

Contact: Gary Proskiw, P.Eng., Director, Mechanical Engineering, Tel: (204) 633-6363.
Personnel: Total is 9 of which 6 are scientists and engineers.
Activities: Energy conservation research; air infiltration measurement.
Facilities: Infiltrometer; air quality testing equipment.
Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector.

UNION OIL COMPANY OF CANADA LTD

335 - 8th Ave S.W., Calgary, Alberta, T2P 2K6.

Heavy Oil

Contact: Mr. Fritz H. Perschon, Manager; Heavy Oil,
Tel: (403) 268-0331.
Personnel: Total is 12 of which 8 are scientists and engineers.
Activities: Recovery of heavy oil or bitumen from Grosmont carbonate reservoir utilizing steam injection.
Facilities: Field pilots.
Current or Potential Work: self or parent.

UNIROYAL LIMITED

1500 Don Mills Road, Don Mills, (Toronto), Ontario, M3B 3L4.

Uniroyal Research Laboratories

120 Huron Street, Guelph, Ontario, N1H 6N3.
Contact: B.A. Graham, Director R&D,
Tel: (519) 822-3790.
Personnel: Total is 58 of which 37 are scientists and engineers.
Activities: Organic chemistry - discovery of new pesticides and process development. Physical chemistry - formulation of pesticide products. Polymer chemistry - rubber compounding, polymer additives composites. Analytical chemistry - separation and identification of organic compounds. Polymer physics - properties of polymeric materials, adhesion. Mathematics - application of statistics to process improvement, etc.
Facilities: Filament winder; chemical pilot plant.
Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Tire Division Technical Department

149 Strange Street, Kitchener, Ontario, N2G 1R5.
Contact: T.L. Powell, Technical Director,
Tel: (519) 743-3914.
Personnel: Total is 26 of which 4 are scientists and engineers.
Activities: Tire design; tire construction and assembly methods; materials primarily for rubber compounds; textile developments for special applications e.g. nylon, polyester, aramid and steel; materials for tire retreading.
Facilities: Tire test wheels; force and moment machine; rolling resistance machine; X-Ray for tires; plunger and bead unseating testers.
Current or Potential Work: self or parent.

URBAN TRANSPORTATION DEVELOPMENT CORPORATION LIMITED

2 St. Clair Ave W., 8th floor, Toronto, Ontario, M4V 1L7.

UTDC Research and Development Limited

Taylor Kidd Blvd, Millhaven, Ontario, K7M 6R1.
Contact: Brian B. Caldwell, Executive Vice-President,
Tel: (613) 384-3100.
Personnel: Total is 36 of which 20 are scientists and engineers.
Activities: Design, build and test steerable trucks for transit applications; develop retrofit kits to improve performance of existing trucks both transit and freight; design, build and test linear induction motors; test

alternative fuels in diesel engines; total vehicle and subsystem design; people moving systems development; materials transportation systems development; civil systems (guideways, tunnels) development.

Facilities: Powered and non-powered transit vehicle test trucks; transit test vehicles; LIM static test rig; transporter (forced air) test track; engine test bed.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

VALAC INC.

1167 route 243, C.P. 730, Valcourt, Québec, J0E 2L0.

Research Unit

Admin. Contact: Yves Gagnon, Directeur général,
Tel: (514) 532-3484.

Scientific Contact: François Blais, Ingénieur junior, R-D,
Tel: (514) 532-3484.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: The main goal of the research is the improvement of products manufactured by Valac Inc, and especially the development of new agricultural equipment.

Current or Potential Work: self or parent.

Note: Descriptive text has been translated from French.

VANCOUVER PETROGRAPHICS LTD

8887 Nash Street, Fort Langley, B.C., V0X 1J0.

Research Unit

Contact: James Vinnell, President, Tel: (604) 888-1323.

Personnel: Total is 4 of which none are scientists and engineers.

Activities: Geological Research - Preparation of geological and engineering specimens for microscope and electron probe analysis.

Facilities: Logitech thin section system; Buehler polishing system.

Current or Potential Work: R&D for government.

VARIAN CANADA INC.

45 River Drive, Georgetown, Ontario, L7G 2J4.

Varian Canada Microwave Division, R&D Dept.

Admin. Contact: G. Connell Smith, General Manager,
Tel: (416) 877-0161.

Scientific Contact: K. Beecker, Manager R&D,
Tel: (416) 877-0161.

Personnel: Total is 26 of which 12 are scientists and engineers.

Activities: A. Design of high frequency high power microwave oscillators and amplifiers. 40Ghz to 200 Ghz. B. Design of high power switching power supplies (10 to 20Kw). C. Design of high power, high voltage power supplies 50 to 200 Kv, 10 Kw. D. Design of switching power supplies and other microwave tubes.

Facilities: Microwave test equipment; environmental test equipment; equipment for P/S design; vacuum equipment, furnace brazing; high voltage measurement equipment.

Current or Potential Work: self or parent, R&D for government.

VARTA BATTERIES LTD

2 Lansing Square, Suite 601, Willowdale, Ontario, M2J 4P8.

Automotive Battery Development Group

1290 Bellamy Road N., Scarborough, Ontario, M1H 1H8.

Contact: E.A. Atkinson, Director, Engineering,
Tel: (416) 494-1457.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Electrical performance of lead-acid cells.

Facilities: Battery test equipment.

Current or Potential Work: self or parent.

VEMCO LIMITED

3895 Shad Bay, Rte 4 Armdale, Halifax, Nova Scotia, B3L 4J4.

Research Unit

3895 Shad Bay, RR #4 Armdale, Halifax, Nova Scotia, B3L 4J4.

Contact: F. Voegeli, President, Tel: (902) 852-3047.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Underwater, ultrasonic telemetry systems design, for use by oceanographers and marine biologists. This is our area of specialization. Development includes hybrid circuit design and prototype production, microcomputer hardware and software development, data acquisition and storage systems design for use with our underwater telemetry systems. Ocean data sensors and, data telemetry systems design.

Facilities: Hybrid circuit fabrication facility; microcomputer development system; high pressure testing tank.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector.

VENMAR INC.

1715 Haggerty Street, Drummondville, Québec, J2C 5P7.

Research Department

Contact: Ky Xuan To, Director of R&D,
Tel: (819) 477-6226.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Residential Ventilation: fluid mechanics and thermodynamic, conservation of energy and management of energy.

Current or Potential Work: self or parent.

VERSATILE FARM EQUIPMENT COMPANY

1260 Clarence Avenue, Winnipeg, Manitoba, R3T 1T3.

Research Unit

Admin. Contact: M. Gartenschleeger, Financial
Co-ordinator, Tel: (204) 477-2385.

Scientific Contact: Mr. H. Crawley, Chief Engineer,
Tel: (204) 477-2353.

Personnel: Total is 174 of which 20 are scientists and engineers.

Activities: Farm Equipment - tractors, swathers, combines, etc.

Facilities: CAD/CAM computer system; test trac.

Current or Potential Work: self or parent.

VERSATILE NOBLE CULTIVATORS CO.

Box 60, Nobleford, Alberta, T0L 1S0.

Versatile Noble

Contact: Mr. Simon Hann, Manager, Research &
Development, Tel: (403) 824-3711.

Personnel: Total is 14 of which 4 are scientists and engineers.

Activities: Tillage, seeding and fertilizing equipment for dryland agriculture.

Facilities: Soil Bin (10' x 60').

VIA PAX CORP. LTD

R.R. #2, Brampton, Ontario, L6V 1A1.

Via Pax Corporation Limited

Admin. Contact: Don D. Rowntree, President,
Tel: (416) 846-4500.

Scientific Contact: Robert B. Stubbings, DVM, Technical
Director, Tel: (416) 846-4500.

Personnel: Total is 2 of which 2 are scientists and engineers.

Activities: EMBRYO TRANSFER: methods of freezing and thawing embryos to increase success rate; methods of superovulation of donor animals to increase number of embryos recovered per flush; micromanipulation of embryos - splitting of embryos into two halves for transfer, increasing the number of pregnancies obtained from the embryos.

Facilities: Micromanipulator; Planar model R204 cell freezer.

Current or Potential Work: self or parent, R&D for government.

VIBRON LIMITED

1720 Meyerside Drive, Mississauga, Ontario, L5T 1A3.

Vibron Limited - Engineering Services Group

Admin. Contact: Dr. D.L. Allen, President,
Tel: (416) 677-4922.

Scientific Contact: Dr. R. Ramakrishnan, Manager,
Engineering Services, Tel: (416) 677-4922.

Personnel: Total is 4 of which 4 are scientists and engineers.

Activities: 1. Field of specialization - noise and vibration analysis and control. 2. R&D performed: i) analysis development and design of vibration isolation/earthquake restraint; ii) analysis and design of vibration isolation of presses and other impulse machines; iii) development of silencers, mufflers and pulse dampers to control noise and pressure pulses; iv) development and design of vibration control products; v) design and development of Tuned Mass Dampers - for CN Tower, tall stacks, etc.

Facilities: Complete noise and vibration measurement and analysis equipment; real-time analyzers; computers; plotters.

Current or Potential Work: self or parent, R&D for private sector, non R&D services for private sector.

VORTEK INDUSTRIES LTD.

1820 Pandora St., Vancouver, B.C., V5L 1M5.

Research Unit

Admin. Contact: G.G. Albach, President,
Tel: (604) 251-2451.

Scientific Contact: D.M. Camm, Director of Research,
Tel: (604) 251-2451.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: Vortek designs, develops, manufactures and markets the most powerful continuous light sources on earth. R&D is aimed at development of ultra-power arc lamps and optical irradiation systems for industrial and scientific use. Areas of specialization include: fabrication techniques for liquid-cooled tungsten electrodes, engineering of high-power optical systems, development of optical design and fabrication techniques for reflector assemblies, development of power control and digital operating systems for plasma arc lamps.

Facilities: Research lamp facility; RF induction casting facility; spectral analysis facility; optical design software.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

WABCO LTD

P.O. Box 2050, Hamilton, Ontario, L8N 3T5.

Research Unit

B.O. Box 2050, Hamilton, Ontario, L8N 3T5.

Contact: P.J. Flynn, Manager, Eng. Research & Quality Assurance, Tel: (416) 561-8700.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: R&D work in general is related to the railroad industry. Work at WABCO Ltd tends to specialize in hydraulics although other areas are also investigated.

Facilities: Environmental room.

Current or Potential Work: self or parent.

WALKER BROS., DIV. OF SCM (CANADA) LTD

351 Wallace Ave, Toronto, Ontario, M6P 3N9.

Walker Bros.

5684 Beresford St., Burnaby, B.C., V5J 1J2.

Admin. Contact: Sid Chabassol, General Manager,
Tel: (604) 434-1374.

Scientific Contact: Lawrence Wong, Lab Manager,
Tel: (604) 434-1374.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Coatings and treatments for the forest industry.
Current or Potential Work: self or parent.

WARNER SHELTER CORPORATION

150 East 1st Avenue, Vancouver, B.C., V5T 1A4.

Research Unit

Contact: G.A. Warner, P.Eng., President,
Tel: (604) 876-1619.

Personnel: Total is 3 of which 3 are scientists and engineers.

Activities: Fabric structure technology; computer patterning and force analysis of fabric structure technology.

Current or Potential Work: self or parent.

WASHBURN AND GILLIS ASSOCIATES LTD

70 York Street, Fredericton, New Brunswick, E3B 3N5.

Washburn & Gillis Associates Ltd

Admin. Contact: Owen Washburn, President,
Tel: (506) 454-0213.

Scientific Contact: Donald Townsend, Senior Biologist,
Tel: (506) 454-0213.

Personnel: Total is 2 of which 1 is a scientist or engineer.

Activities: Study of effects of environmental changes on fish behaviour and growth in natural ecosystems and in aquaculture operations. Fisheries research on (1) sublethal and lethal effects of acid rain, heavy metals, industrial effluents and pesticides; and (2) modifications to aquaculture operations promoting enhanced fish growth and condition.

Facilities: Large laboratory stream aquaria.

Current or Potential Work: self or parent, R&D for government.

WATERSHED ENERGY SYSTEMS LTD

97 Six Point Road, Toronto, Ontario, M8Z 2X3.

Watershed Energy Systems Limited

Contact: Douglas Hart, President, Tel: (416) 233-3241.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Solar collectors, absorption cooling and solar refrigeration, thin film solar collectors, solar monitoring and control devices, analysis of thermal processes, feasibility analysis of energy retrofit in existing buildings, energy efficient building design, energy efficient mechanical engineering, energy product design, heat transfer materials and systems, building thermostat design and development, energy monitoring systems (microprocessor based) for energy management and control, energy efficient window systems, use of honeycomb convection suppressors in windows, use of infrared reflecting films in windows, water heating heat pumps, dehumidification of indoor pool enclosures.

Facilities: Convection oven; compressor; air tools; metering equipment (electrical, pH, numerous sensors and flow control devices); air balancing equipment; on-line computer terminal; roll forming equipment for fabrication electric tools; fork lift; drill presses (2); welding equipment; web handling equipment (pneumatic); acid

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

WELDING INSTITUTE OF CANADA

391 Burnhamthorpe Road East, Oakville, Ontario, L6J 6C9.

Research Unit

Admin. Contact: J.S. Johnston, Director Corporate Relations, Tel: (416) 845-9881.

Scientific Contact: Dr. A.S. Glover, Director of Technology, Tel: (416) 845-9881.

Personnel: Total is 45 of which 35 are scientists and engineers.

Activities: Welding research - welding consumables, weldability of materials, welding equipment and processes, performance of welded structures, fracture mechanics, inspection and quality assurance.

Facilities: Full scale pipeline test facilities.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

WELLSDALE RESEARCH LTD

6912-82nd Avenue, Edmonton, Alberta, T6B 0E7.

Research Unit

Admin. Contact: Ms. Marlene Sponagle, Manager, Tel: (403) 468-1761.

Scientific Contact: Mr. Robert Grauman, President, Tel: (403) 468-1761.

Personnel: Total is 7 of which 4 are scientists and engineers.

Activities: Design and development of stand alone power systems; automatic weather stations; pipeline control systems; computer software development; automatic hydrological systems; electronic power regulation and control devices for such things as lightning detection, wind power systems, irrigation control systems, pump monitoring, photovoltaic power systems. Custom electronic design, small scale low head water turbine systems.

Facilities: Custom, precision machine shop; electronics laboratory; portable design and testing facility; portable computer design facility.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

WESTBAY INSTRUMENTS LTD

507 E. Third St., North Vancouver, B.C., V7L 1G4.

Research Unit

Admin. Contact: W.K. Patton, Vice-President, Tel: (604) 984-4215.

Scientific Contact: F.D. Patton, President, Tel: (604) 984-4215.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Mechanical and electronic design of instrumentation for measuring water pressure and taking water samples in deep drillholes and/or in hazardous materials. Involves work on strength of materials, pressure testing, cast polyurethane elastomers for packers, electronic design of data acquisition equipment.

Facilities: Pressure chambers to 2000 psi; temperature chamber (range -40 degrees C to 250 degrees C);

pressure transducer calibration equipment - 0-100 psi to + or - .025% F.S.; pressure transducer calibration equipment 0-2000 psi + or - 0.1% F.S.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

WESTEEL, A DIVISION OF JANNOCK LIMITED

1 Atlantic Avenue, Toronto, Ontario, M6K 1X7.

Building Products Engineering

Admin. Contact: Rowland H. Jones, P.Eng., RIA, General Manager, Tel: (416) 674-0790.

Scientific Contact: Ching Fung, B.Eng., M.A.Sc., P.Eng., Chief Engineer, Tel: (416) 674-0790.

Personnel: Total is 4 of which 2 are scientists and engineers.

Activities: R&D performed with this unit is mostly related to Building Science and Construction Technology. Emphasis is placed on environmental performance of various steel insulated roof and wall systems and structural performance of steel floor systems. Specialization field is light gauge steel products. However, other associated materials such as insulation, protective coatings are also studied.

Facilities: Vacuum jig; Ansler 20 ton structural testing system; Tensile tester c/w plotter; Tensile cutter; 75 ton Dake hydraulic press; deflection and strain gauges measurements.

Current or Potential Work: self or parent, R&D for government, non R&D services for private sector.

WESTINGHOUSE CANADA INC.

PO Box 510, 120 King St W, 6th Floor, Hamilton, Ontario, L8N 3K2.

Transformer Department - Electrical Development Section

1632 Burlington Street East, Hamilton, Ontario, L8N 3K2.

Admin. Contact: J.L. Harbell, Plant Manager, Tel: (416) 528-8811.

Scientific Contact: P.V. Birke, Section Engineer, Electrical Development, Tel: (416) 528-8811.

Personnel: Total is 4 of which 3 are scientists and engineers.

Activities: Electromagnetic field analysis; dielectric and magnetic field testing; design optimization - nonlinear and geometric programming; numerical and statistical analysis; CAE/CAD philosophy.

Facilities: Engineering computer; EHV test equipment; load loss precision bridge; stray loss measurement apparatus; dielectric oil test equipment.

Current or Potential Work: self or parent.

Turbine & Generator Division, Product Reliability Department

P.O. Box 510, Milton Ave., Hamilton, Ontario, L8N 3K2.

Admin. Contact: R.B. Hall, Manager of Product Reliability, Tel: (416) 528-8811.

Scientific Contact: K.P. Willett, Manager of Metallurgical Section, Tel: (416) 528-8811.

Personnel: Total is 19 of which 8 are scientists and engineers.

Activities: Gas and steam turbine materials, processes and performance.

Facilities: Metallurgical laboratory; chemical laboratory; mechanical, vibration and electronics laboratory; hot isostatic press; computerized facility to access and analyse historical and real time data.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

Contract Engineering of Nuclear Products Department

1632 Burlington St. E, Hamilton, Ontario, L8N 3K2.

Contact: F. Stern, Manager, Tel: (416) 528-8811.

Personnel: Total is 37 of which 17 are scientists and engineers.

Activities: Qualification and performance testing of components and systems; fabrication and testing of nuclear fuel pin simulators; mathematical modelling and data analysis; design and fabrication of specialized equipment for testing; large scale thermal hydraulic testing - critical heat flux testing of multi-pin assemblies, pressure drop measurements, two-phase jet impingement and rapid depressurization measurements, endurance testing for fretting studies of fuel strings.

Facilities: High speed data acquisition and control system (250" ch); 5 MW variable power supply; high pressure (>12 MPa) test loops; instrumentation for temp. press. flow, etc.; high pressure test boiler; large (8' dia. x 20') environmental test chambers.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

Product and Materials Development, Nuclear Products Department

Dorset Street East, Port Hope, Ontario, L1A 3V4.

Admin. Contact: H.R. Debnam, Manager, Nuclear Products Department, Tel: (416) 885-4537.

Scientific Contact: N.A. Graham, Manager, Product & Materials Dev., Tel: (416) 885-4537.

Personnel: Total is 17 of which 7 are scientists and engineers.

Activities: Materials and manufacturing processes development projects in support of nuclear fuel products. Includes metal working, forming, heat treatment, welding, brazing, UO₂ ceramics pellet compaction and sintering. Specialities: Zirconium metallurgy, high temperature/pressure water and steam corrosion testing, fusion and resistance welding of zirconium alloys, prototype product development in zirconium alloys, UO₂ ceramics technology.

Facilities: UO₂ Ceramics Sintering; Particle Size Analyzer; X-Ray Diffraction; Vacuum Heat Treatment; Vacuum Brazing; Reactive Metals Welding.

Current or Potential Work: self or parent, R&D for government, R&D for private sector.

WESTON RES. CTRE, A DIV. OF GEORGE WESTON LTD

1047 Yonge Street, Toronto, Ontario, M4W 2L3.

Weston Research Centre

Admin. Contact: Ms. June Westerman, Administration Manager, Tel: (416) 922-5100.

Scientific Contact: Dr. G. Ross Lawford, Technical Director, Tel: (416) 922-5100.

Personnel: Total is 90 of which 60 are scientists and engineers.

Activities: Biotechnology: SCP, biopolymers, fuel alcohol, microbial lipids food products/ingredients; food processing/packaging technologies; methodologies for analytical technique; interactions of food components - mechanisms/implications.

Facilities: Biotechnology/fermentation - pilot and lab scale; food/biomass extruder; GC/HPLC; pilot food processing.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

WESTROC INDUSTRIES LTD,

2650 Lakeshore Highway, Mississauga, Ontario, L5J 1K4.

Development Department

Contact: Dr. R.B. Bruce, Manager of Development, Tel: (416) 823-9881.

Personnel: Total is 6 of which 4 are scientists and engineers.

Activities: Manufacture of gypsum products and ancillary products; gypsum process development; synthetic gypsum; energy conservation.

Current or Potential Work: self or parent.

WHEELABRATOR CORPORATION OF CANADA LTD (THE)

(P.O. Box 1000) 401 Wheelabrator Way, Milton, Ontario, L9T 4B7.

Barnday Division - Wheelabrator Corporation of Canada Ltd

75 Moorefield St. (P.O. Box 790), Cambridge, Ontario, N1R 5W6.

Contact: G.A. Watkins, Vice-President, Operations, Tel: (416) 844-1550.

Personnel: Total is 5 of which 3 are scientists and engineers.

Activities: Development and testing of air pollution control devices - especially fabric filter types. Development and testing of industrial and commercial fabrics - especially filtration media, equipment for Armed Forces, pulp and paper industry, safety materials, mining industry.

Facilities: Variety of air pollution control devices. Instron tensile tester model 1130; B.F. Perkins Mullen tester; Air permeability tester; Sartorius electronic balance 1608 MP; Sartorius electronic balance 1364 MP; Eberbach chain balance; Electrothermal Soxhlet extraction apparatus; Spencer microscope; Simpson digital multimeter;

Current or Potential Work: self or parent, R&D for government, non R&D services for government.

WHITE FARM MANUFACTURING CANADA LIMITED

148 Mohawk Street, Brantford, Ontario, N3T 5R7.

White Farm Manufacturing Canada Ltd., Research & Development Centre

38 Morton Avenue, Brantford, Ontario, N3R 2N5.

Contact: Mr. T. Donaldson, Director of Engineering, Tel: (519) 758-5201.

Personnel: Total is 45 of which 12 are scientists and engineers.

Activities: (1) Advanced research in the field of crop harvesting mechanisms. (2) Advanced research in the field of agricultural vehicle control/monitoring systems.

Facilities: Crop processing laboratory; high speed photographic equipment.

Current or Potential Work: self or parent.

WORTHINGTON CANADA INC.

Worthington Drive, P.O. Box 40, Brantford, Ontario, N3T 5M5.

Worthington Canada Inc. - R&D Group

P.O. Box 40, Brantford, Ontario, N3T 5M5.

Admin. Contact: A. Prang, Manager - Engineering, Tel: (519) 753-7381.

Scientific Contact: G. Davidson, Supervisor - Research, Tel: (519) 753-7381.

Personnel: Total is 5 of which 2 are scientists and engineers.

Activities: Basic research related to the transport of solids using centrifugal and rotary type pumps. Areas of study include hydrodynamics of pump operation, effects of solids content on pump performance and material considerations for abrasive services. Fields of specialization include wear rates of slurry pumps in abrasive media and the application of hard metals and elastomeric materials for abrasion resistance. Other areas of study include application of centrifugal pumps on paper stock service and positive displacement pumps on non-newtonian services.

Facilities: 30,000 gallon, 20 inch pump test loop; high viscosity pump test loops; cavitation visualization facility; 600 gallon slurry testing facility.
Current or Potential Work: self or parent.

WYCOVE SYSTEMS LTD

P.O. Box 499, Dartmouth, N.S., B2Y 3Y8.

Wycove Systems Limited

Contact: David F. Gray, President, Tel: (902) 465-4339.

Personnel: Total is 11 of which 7 are scientists and engineers.

Activities: Computer software development - scientific applications, scientific data handling, data presentation graphics, charting and mapping, system software. Algorithmic development - scientific procedures, scientific data handling. Modelling.

Facilities: Variety of computer graphics equipment.

Current or Potential Work: R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

XEROX RES CTRE OF CDA, DIV OF XEROX CANADA, INC

2660 Speakman Drive, Mississauga, Ontario, L5K 2L1.

Xerox Research Centre of Canada, Division of Xerox Canada, Inc.

Admin. Contact: Jerome Dvorch, Manager of Administration, Tel: (416) 823-7091.

Scientific Contact: Dr. Robert H. Marchessault, Vice-President & Manager of Research Centre, Tel: (416) 823-7091.

Personnel: Total is 120 of which 98 are scientists and engineers.

Activities: Materials research for both xerographic and non-xerographic consumable supplies including toner, developer, photoreceptor, inks, and paper. Research in physical sciences, imaging chemistry, materials development, and materials chemistry.

Facilities: Nuclear magnetic resonance apparatus; chemical process engineering pilot plant; materials processing equipment (extrusion, micronization, coating); electron microscopes; xerographic materials test lab; TAPPI standard paper testing lab.

Current or Potential Work: self or parent, R&D for government.

XYTEL ENERGY LTD

4129 Harvester Road, Burlington, Ontario, L7L 5M3.

Xytel Energy Limited

Admin. Contact: K. Persad, President, Tel: (416) 632-1341.

Scientific Contact: Dr. R. Al Samadi, Vice President, Engineering, Tel: (416) 632-1341.

Personnel: Total is 16 of which 10 are scientists and engineers.

Activities: Biomass; biotechnology; supercritical extraction; distillation; pulp and paper; petroleum refining - upgrading etc.; research in unfinished processes; state of the art in instrumentation; polymers, engineering of special equipment for R&D.

Facilities: Hydrotreater; Supercritical Extractor.

Current or Potential Work: self or parent, non R&D services for private sector.

YORKVILLE SOUND LTD

80 Midwest Rd, Scarborough, Ontario, M1P 4R2.

Research Unit

Contact: Steve Long, Production Manager, Tel: (416) 751-8481.

Personnel: Total is 9 (Note: Total R&D personnel is 9 of which 4 are designers.)

Activities: Audio and signal processing systems.

Facilities: Standard electronic equipment.

Current or Potential Work: self or parent, R&D for private sector.

ZENAIR LTD

King Road, Nobleton, Ontario, L0G 1N0.

Zenair Ltd.

Contact: Chris Heintz, President, Tel: (416) 859-4556.

Personnel: Total is 3 of which 2 are scientists and engineers.

Activities: Aircraft: aerodynamics, structure - static and dynamic; aircraft power plant and propellers.

Facilities: Flight platform; static test equipment; dynamic test equipment.

Current or Potential Work: self or parent, R&D for government, R&D for private sector, non R&D services for private sector.

ZENON ENVIRONMENTAL INC.

845 Harrington Court, Burlington, Ontario, L7N 3P3.

Research Unit

Admin. Contact: Dr. A. Benedek, President, Tel: (416) 639-6320.

Scientific Contact: E. Harrison, Manager, R&D, Tel: (416) 639-6320.

Personnel: Total is 25 of which 15 are scientists and engineers.

Activities: Development of analytical methods in trace organics; treatability studies, process development, and pilot scale experiments for water and wastewater streams, as well as industrial process streams; development of novel RO and UF membranes; development specialized sensors, instruments and systems for water and wastewater.

Facilities: Comprehensive organics lab.; micro/instrument dev. lab.; pilot plant; treatability laboratories; membrane production and testing.

Current or Potential Work: self or parent, R&D for government, non R&D services for government, R&D for private sector, non R&D services for private sector.

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R Manitoba
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Y Yukon

REGION-A NEWFOUNDLAND

THE BAE GROUP

REGION-B NOVA SCOTIA

CAPE BRETON DEVELOPMENT CORPORATION
Dymaxion Research Limited
Evans Computer Applications Ltd
FOCAL MARINE LIMITED
Hermes Electronics Ltd.
IMA Aquatic Farming Limited
J.D. KOPPERNAES ENGINEERING LTD.
KB ELECTRONICS LIMITED
MARTEC Limited
Minas Seed Co-operative Ltd
National Sea Products Limited
Nova Energy Limited
OCEANROUTES CANADA INCORPORATED
Orion Electronics Limited
Protec Machinery Limited
R.H. LOUCKS OCEANOLOGY LTD
Scotia Liquicoal Limited
SEIMAC LIMITED
SYDNEY STEEL CORPORATION
VEMCO LIMITED
Wycove Systems Ltd

REGION-C PRINCE EDWARD ISLAND

DIAGNOSTIC CHEMICALS Limited
Marine Lobster Farms Ltd

REGION-E NEW BRUSWICK

Fraser Inc.
Fundy Isles Marine Enterprises Ltd
New Brunswick Electric Power Commission (The)
Washburn and Gillis Associates Ltd

REGION-G QUEBEC EAST

ALCAN INTERNATIONAL LIMITED
Consolidated-Bathurst Inc.
CULINAR INC.
GEN-TEC INC,
Industries Alma Mecanic Inc. (Les)
Industries Provinciales Ltée (Les)
IVI INC.
Lab Volt Québec Ltée
M2S Electronique Ltée
Micro Controle Inc.
Pocatec Ltée
POELES ST-GEORGES INC (LES)
Société d'Aluminium Reynolds (Canada) Ltée
St-Lawrence Cement
SYSTEME ELECTRONIQUE RAYCO LTEE

REGION-H MONTREAL METROPOLITAN

AVMOR LTD.
Bendix Avelex Incorporated
BIO-ENDO INC.
BIO-RESEARCH LABORATORIES LTD,
CAE Industries Ltd.
Canada Cement Lafarge Ltd
Canadian Liquid Air Ltd
Canadian Marconi Company (CMC)
CARISTRAP INC.
Centrodyne Inc.
CIP Inc.
CIRCUL-AIRE INC.
COMMUNICATIONS VIDEOTRON LTEE (LES)
DBM Industries Limited
Degremont Infilco Ltd
Domtar Inc.
Electro-Vox Inc.
Emhart Canada Limitée, Division Bostik
ens BIOLOGICALS Inc.
EPIX INC.
Forest Engineering Research Institute of Canada
GAZ METROPOLITAIN INC.
General Foods Inc.
Glanmar Mills Limited
H.G. Kalish Inc
H.L. Blachford Ltd.
ICAM Technologies Corporation
ILCO UNICAN INC.
Imperial Oil Limited
IMPERIAL TOBACCO LTD.
JOHNSON & JOHNSON INC. RES. & DEV. CENTRE
Joseph E. Seagram & Sons, Ltd.
Lallemand Inc.
Lavo Limitée
Logging Development Corporation
LUCAS INDUSTRIES CDA LTD, AEROSPACE DIV.
Lynn & Johnston Labs Inc.
MATERIAUX DE CONSTRUCTION CANADA LTEE
Matrox Electronic Systems Ltd
Memotec Data Inc.
Merck Frosst Canada Inc.
Morgan Schaffer Corporation
MPB TECHNOLOGIES INC.
Noranda Inc.
NOVALAB LTD
P.S.C. CONTROLS
PDM Produits Electriques Ltée
Plastibeton Inc.
PULP & PAPER RESEARCH INSTITUTE OF CANADA
Pylon Electronic Development Company, Ltd.
RCA Inc.
SERVICES D'INGENIERIE SECURITAIRE fd LTEE
SHAWINIGAN LAVALIN INC.
SILONEX INC.
SMITH & NEPHEW INC.
SNC INC.
SOCIETE METROHEAT INC.
Sperry Inc.
THERAPEX INC.
Trimag Consultants Ltd.

REGION-J QUEBEC WEST

Actol Chemicals Ltd.
Agropur, Coopérative Agro-Alimentaire
ALIMENTS DELISLE LTEE
ATMOLYSAIR LTEE
C-I-L Inc.

Canadian Refractories Dresser Canada, Inc.
 CANEXEL INC
 CHAMPLAIN INDUSTRIES LTD
 Compagnie de recherche contractuelle CORECO Inc. (La)
 Dorse Industrial Chemicals Ltd.
 HARRICANA METAL INC.
 HYDRO-QUEBEC
 Laboratoires Choisy Limitée
 MARK HOT INC.
 MATERIEL INDUSTRIEL LTEE (LE)
 Mec-Fab Inc./Servo-Robot Inc.
 MITEL CORP., SEMICONDUCTOR DIVISION
 Mulco Inc.
 NI CHEM Canada Inc.
 PIRELLI CABLES INC.
 Plastiques techniques T.R. Ltée
 PRATT & WHITNEY CANADA INC.
 QIT-Fer et Titane Inc.
 Quebec Metal Powders Limited
 Roctest Ltd/Ltée
 SERVICES CONVERTO-BRAILLE CYPHOT-
 GALARNEAU
 SICO INC.
 Sidbec-Dosco Inc.
 St-Lawrence Cement
 Tioxide Canada Inc.
 VALAC INC.
 VENMAR INC.

REGION-K EASTERN ONTARIO

Almax Industries Limited
 AMCA International Limited
 Bausch & Lomb - SEMCO DIVISION
 BEAVER'S DENTAL PRODUCTS
 Bell Canada
 Biokinetics and Associates Limited
 Canadian Astronautics Limited
 Canadian General Electric Company Ltd
 Cimtech, Division of Bata Industries Limited
 CIP Inc.
 Computing Devices Company
 CONTROL DATA CANADA LIMITED
 COURTAULDS (CANADA) INC.
 CYBERNEX LIMITED
 Data Kinetics Ltd
 DITEM LTD.
 DAVIS ENGINEERING LTD. (Consulting Engineers)
 DIPIX SYSTEMS LIMITED
 Documented Circuits Inc.
 Du Pont Canada Inc.
 DY-4 SYSTEMS INC.
 EIDETIC SYSTEMS CORPORATION
 ETHICON SUTURES Ltd.
 FARRINGTON, LOCKWOOD COMPANY LTD
 Forintek Canada Corp.
 G.A. Grant Scientific Consultants Limited
 Gandalf Data Ltd
 General Foods Inc.
 Graphic Controls Canada Ltd
 Gregory Geoscience Limited
 HITECH CANADA LIMITED
 Huron Chemicals Ltd.
 INFRARED PHOTOGRAPHIC LTD.
 Intellitech Canada Ltd
 Interactive Circuits & Systems Ltd.
 INTERCONTINENTAL DATA CONTROL CORP LTD
 KENTING EARTH SCIENCES LIMITED
 L.H. FROST LIMITED
 LAKEFIELD RESEARCH, Div. of Falconbridge Ltd

LUMONICS INC. - Kanata Operations
 Miller Communications Systems Ltd
 Mosaid Inc.
 NIACAD LTD
 NORPAK CORPORATION
 Optical Art Camera Corp.
 Optotek Limited
 Prior Data Sciences Ltd
 Pylon Electronic Development Company, Ltd.
 RELTEK INC
 Richard Brancker Research Ltd
 Roy Ball Associates Limited
 Sander Geophysics Ltd
 SaTel Consultants Limited
 Scanada Consultants Limited
 SCANNAR INDUSTRIES INC.
 Sperry Inc.
 T E S Limited
 Targa Electronics Systems Inc.
 Urban Transportation Development Corporation Limited

REGION-L CENTRAL ONTARIO

Abitibi-Price Inc.
 Alkaril Chemicals Ltd
 Amador Hydraulic Services Limited
 ANDREW ANTENNA COMPANY LIMITED
 Ashland Chemicals (Div of Valvoline Oil & Chemicals Ltd.)
 B.E.L. - TRONICS Limited
 Barder Industries Ltd
 Blue Mountain Pottery Limited
 Brouwer Turf Equipment Limited
 C&C Yachts Limited
 C-I-L Inc.
 CAE DIECAST Ltd
 Cambrian Engineering Group Ltd (The)
 CANADIAN CANNERS LIMITED,
 Canadian Institute of Metalworking
 CANADIAN INSTRUMENTATION AND RESEARCH
 LIMITED
 Canadian Porcelain Compnay Limited
 Chemcraft Sadolin Inc.
 CHIPMAN INC.
 Cominco Ltd
 Consultronics Ltd
 CONTROL DATA CANADA LIMITED
 CRONE GEOPHYSICS LIMITED
 Cryovac Div W. R. Grace & Co Cda Ltd
 DAF Indal Ltd
 Dearborn Chemical Company Limited
 DeSOTO COATINGS LIMITED
 Diversey-Wyandotte Inc
 DOFASCO INC
 Domglas Inc.
 Dunlop Limited
 Duracell Inc.
 E.D. Smith and Sons Ltd.
 ECO-TEC LIMITED
 Eng Res Assoc;Div/Tennyson Hanson Mabson & Uffen
 Assoc Ltd
 ERNST LEITZ CANADA LTD.
 FOSTER WHEELER LIMITED
 Geac Canada Limited
 General Motors of Canada Ltd
 General Refractories Co. of Canada Ltd.
 Greening Donald Co. Ltd
 GULF CANADA LTD
 H.L. Blachford Ltd.
 Hawker Siddely Canada Inc
 IEC - Beak Consultants Ltd

INCO LIMITED
 ISTECH Limited
 John Deere Welland Works of John Deere Limited
 LePage's Limited
 Linear Technology Inc.
 LONG MANUFACTURING LTD.
 Mactac Canada
 MAGIC PANTRY FOODS INC.
 MDS Health Group Limited
 Metrex Instruments Limited
 Molson Breweries of Canada Ltd
 MONITEQ LTD.
 MONO RES LABORATORIES LTD
 Monserco Limited
 MORRISON HERSHFIELD LIMITED
 Motorola Information Systems Ltd
 NETWORK DATA SYSTEMS LIMITED
 NUCLEAR ACTIVATION SERVICES LIMITED
 Ontario Paper Company
 Opto-Electronics Inc.
 PCO SERVICES LTD
 Picker International Canada Inc.
 Poss Design Limited
 Questor Surveys Ltd.
 Rieder Distillery Ltd
 ROBERTS-GORDON APPLIANCE CORP. LTD.
 Scanada Consultants Limited
 Scantech Electronics Inc.
 Schlegel Canada Inc.
 SCINTREX LIMITED
 Shell Canada Ltd
 Sonotek Limited
 St-Lawrence Cement
 St. Mary's Cement Company
 Stake Technology Ltd
 Stange Canada Inc.
 Stelco Inc.
 Sterling Drug Ltd.
 Sterling Limited
 SYNTEX INC.
 T.R.W. Canada Limited Carr Division
 Tektron Equipment Corporation
 Tele-Radio Systems Limited
 TORCAN CHEMICAL LTD
 TRI-CANADA Inc.
 Triple Crown Electronics Inc.
 Ultra Lasertech Inc.
 Varian Canada Inc.
 VIA PAX CORP. LTD
 VIBRON LIMITED
 Wabco Ltd
 Welding Institute of Canada
 Westinghouse Canada Inc.
 WESTROC INDUSTRIES LTD,
 XEROX RES CTRE OF CDA, DIV OF XEROX CANADA,
 INC
 XYTEL ENERGY LTD
 ZENAIR Ltd
 Zenon Environmental Inc.

REGION-M TORONTO METROPOLITAN

Andec Mfg. Ltd
 Andico Manufacturing Limited
 APTEC ENGINEERING LIMITED
 BARRINGER MAGENTA LIMITED
 Barringer Research Ltd
 Bate Chemical Co Ltd

BORDEN CHEMICAL, Division of The Borden Company
 Limited
 C-I-L Inc.
 Canada Packers Inc.
 CANADIAN GAS RESEARCH INSTITUTE
 Canadian Liquid Air Ltd
 CIL Paints Inc.
 CIP Inc.
 Con-Serve Group Ltd
 CONNAUGHT LABORATORIES LIMITED
 D.A. Stuart Inc.
 DATALINE INC.
 DE HAVILLAND AIRCRAFT CDA LTD, (THE)
 Delta Engineering Ltd
 DSMA ATCON LTD
 EMERY INTERNATIONAL DEVELOPMENTS LIMITED
 ERCO Industries Limited
 Eyecorp Ltd
 F.T. Gerson Limited
 FEDERAL PIONEER LIMITED
 FIRST SPICE MFG CORP CDA LTD
 FRC Composites Ltd
 French Jewellery Co. of Canada Ltd
 General Communion, Inc.
 George Kelk Limited
 Gigatek Ltd
 H.G.E. Inc
 HELMITIN CANADA INC.
 Howden Applied Res. Ltd, a Div. of Brown Boveri Howden
 Inc
 Human Computing Resources Corp.
 IBM CANADA LTD,
 Industrial Adhesives division of Timminco Limited
 JOHNSON MATTHEY LIMITED
 Kidd Creek Mines Ltd
 Kingsmill Foods Company Ltd
 LAMONTAGNE GEOPHYSICS LIMITED
 LAWSON FLEXIBLE PACKAGING
 Marshall Macklin Monaghan Limited
 Massey-Ferguson Limited
 MDS Health Group Limited
 Minmet Scientific Ltd
 MORTON & PARTNERS LIMITED
 MUIRHEAD SYSTEMS LIMITED
 Nelson's Dairy Ltd
 Numetrix Limited
 Ontario Hydro
 OPTECH INCORPORATED
 PAYTON SCIENTIFIC LIMITED
 Polygon Industries Ltd
 Prior Data Sciences Ltd
 Promac Controls Inc.
 PROTECTIVE PLASTICS LIMITED
 REICHHOLD LIMITED
 Research Foods Limited - Biotechnology Division
 Robin Hood Multifoods Inc.
 Rumble Equipment Ltd
 SINCLAIR & VALENTINE
 Sola Canada
 Sotelcom Inc.
 Techno Scientific Inc.
 The Griffith Laboratories, Limited
 Thompson Foss Incorporated
 TIL Systems Limited
 Tiltascreen Ltd
 Trench Electric
 Varta Batteries Ltd
 Watershed Energy Systems Ltd
 WESTEEL, a Division of Jannock Limited
 WESTON RES. CTRE, A DIV. OF GEORGE WESTON
 LTD
 Yorkville Sound Ltd

REGION-N SOUTHWESTERN ONTARIO

430451 Ontario Limited - operating as Limnoterra
Allied Automotive - Canadian Fram Limited
Arriscraft Corporation
BACH-SIMPSON LIMITED
CANADIAN CANNERS LIMITED,
Canviro Consultants Ltd
Champion Road Machinery Limited
CIBA-CEIGY SEEDS
CLARE BROTHERS
D.G. Henderson & Associates Ltd
Deb Swarfega Inc.
DENOVA, LTD
Diffracto Limited
Dow Chemical Canada, Inc.
Enermodal Engineering Limited
Farmatic Inc.
Fiberglas Canada Inc.
Gay Lea Foods Cooperative Ltd
Hope Laboratories Ltd
Imperial Oil Limited
INGERSOLL RAND CAN. INC.
Ingersoll Rand Canada Inc.
Inmont Canada Inc.
INTERCANE SYSTEMS INC.
ITT Business Communications
J.M. Schneider Inc.
KING GRAIN LTD.,
L.A.S.E.R. Technology Inc.
Labatt Brewing Company Limited
Limagrain Canada Inc.
London Laboratories Limited
Microtronix Systems Ltd
Mine Waste Reclamation Ltd
Morris Magnetics
MW Canada Ltd
OPTIKON Corporation Ltd. (The)
Photochemical Research Associates Inc.
POLYSAR LIMITED
Quadro Engineering Inc.
Quatic Chemicals Limited
R.J. Pick Ltd
S.C. JOHNSON & SON LIMITED,
SERDARY RESEARCH LABORATORIES INC.
Solcan Ltd
SPARTON OF CANADA, LIMITED
STERNSON LIMITED
STRITE INDUSTRIES LIMITED
TIMBERJACK, DIV OF EATON YALE LTD
Trojan Technologies Inc
Uniroyal Limited
Wheelabrator Corporation of Canada Ltd (The)
White Farm Manufacturing Canada Limited
Worthington Canada Inc.

REGION-P NORTHERN ONTARIO

KBM FORESTRY CONSULTANTS INC.
Miller Technology Inc.
Rio Algom Ltd

REGION-R MANITOBA

Appin Solar Associates, Inc.
Boreal Projects Ltd
Brewing & Malting Barley Res. Inst.
Bristol Aerospace Limited

Carte Electric Ltd
Conserver Group Inc. (The)
Guertin Bros. Coatings and Sealants Ltd
Industrial Applications of Microelectronics Centre, Inc.
Inrad Industrial R&D Ltd
Kraus Industries Ltd
Lion Industries Ltd
Loewen Millwork - Div. of C.P. Loewen Enterprises Ltd
M S INDUSTRIAL REFRIGERATION, a Div. of MALNAR
IND. LTD
Phillips Paint Products (1968) Ltd
State Industries Ltd
Tantalum Mining Corporation of Cda Ltd
TNT Developments Ltd
UNIES Ltd
VERSATILE FARM EQUIPMENT COMPANY

REGION-S SASKATCHEWAN

BBT Geotechnical Consultants Ltd
C S P Foods Ltd
Cambrian Engineering Group Ltd (The)
Canadian Seed Coaters Limited
Flexi-coil Ltd.
Morris Rod-Weeder Co. Ltd.
POS Pilot Plant Corp.
Potash Corp. of Saskatchewan Mining Ltd
RAM Industries Ltd
Rite Way Mfg. Co. Ltd
Sask. Wheat Pool-Product Devel, Farm Service Div.
SASKATCHEWAN MINERALS
Saskatchewan Power Corporation
Saskoil
SED Systems Inc.
SENSTEK Ltd

REGION-T ALBERTA

Alberta Livestock Transplants Ltd.
Alberta Sulphur Research Ltd
Alberta Wheat Pool
Amerigo Technology Ltd
ARCTEC CANADA LIMITED
BBT Geotechnical Consultants Ltd
Bears paw Logging Services Ltd
Bow Valley Resource Services Ltd
C-I-L Inc.
Canadian Formation Testers Ltd
CAPROCO CORROSION PREVENTION LTD
Chembiomed Ltd.
City of Calgary Engineering Dept.
Coal Mining Research Centre
Cominco Ltd
Commonwealth Geophysical Development Co. Ltd
Det Norske Veritas (Canada) Ltd
Dow Chemical Canada, Inc.
Drill Systems - Division of Dualco Mfg Ltd
EDO Canada Ltd
Elsro Asphalt Ltd
ens BIOLOGICALS Inc.
Gemini Biochemical Research Ltd.
Global Thermoelectric Power Systems Ltd
Hycal Energy Research Laboratories Ltd.
Imperial Oil Limited
INTERA Technologies Ltd
Lakeside Research - Div of Lakeside Feeders Ltd
M.J. O'Connor & Associates Ltd
Murphy Oil Company Ltd

Norwest Soil Research Ltd
 NOVA AN ALBERTA CORPORATION
 NOVACOR CHEMICALS LTD
 Pembina Resources Ltd
 Pengalta Research & Development Ltd
 Petro-Canada
 Petroleum Recovery Institute
 Prolite Plastics Ltd
 Q.C. Data Collectors Ltd
 Raylo Chemicals Ltd.
 Shell Canada Ltd
 Sherritt Gordon Mines Limited
 Syncrude Canada Ltd
 Synerlogic Inc.
 Thorlakson Feedyards - Research Feedlot
 Torchinsky Consulting (1976) Ltd
 Trans-Canada Resources Ltd
 Trimag Consultants Ltd.
 Turbo Resources Ltd, Lubricants Marketing Division
 Union Oil Company of Canada Ltd
 Versatile Noble Cultivators Co.
 Wellsdale Research Ltd

Swan Wooster Engineering Co. Ltd.
 Sydney Development Corp.
 Syndel Laboratories Ltd
 Teleflex (Canada) Ltd
 Theodor D. Sterling Ltd
 Vancouver Petrographics Ltd
 Vortek Industries Ltd.
 Walker Bros., Div. of SCM (Canada) Ltd
 Warner Shelter Corporation
 Westbay Instruments Ltd

NOTE:

Company names are reproduced in this index as they were provided by the respondent.

REGION-V BRITISH COLUMBIA

Anatek Microcircuits Inc.
 Arctic Sciences Ltd.
 Argus Control Systems Ltd
 Autonetics Research Associates Inc.
 B H Levelton & Associates Ltd.
 B.C. Hydro
 Bacon, Donaldson & Associates Ltd
 Beales Steel Products Ltd
 BORDEN CHEMICAL, Division of The Borden Company
 Limited
 Bow Valley Resource Services Ltd
 BRITISH COLUMBIA TELEPHONE COMPANY
 C-I-L Inc.
 Cominco Ltd
 Commercial Electronics Ltd
 Computrol Systems Ltd
 Council of Forest Industries of B.C.
 CTF SYSTEMS INC.
 DANIELS ELECTRONIC LTD
 DEES Communications Engineering Ltd
 DILOR INDUSTRIES LTD
 Dynamics Floatation Inc
 E.V.S. CONSULTANTS LTD
 Econotech Services Limited
 Forest Engineering Research Institute of Canada
 Forintek Canada Corp.
 GLENAYRE ELECTRONICS LTD.
 Hawker Siddely Canada Inc
 INTEG-Intercontinental Engineering Ltd
 Lake City Technical Products Inc.
 Macdonald, Dettwiler and Associates Ltd
 MacMillan Bloedel Limited
 Microtel Ltd
 Moli Energy Limited
 MORRIS INDUSTRIES LTD
 Mustang Industries Inc.
 Muth Air Pac Inc.
 NAWITKA Renewable Resource Cnslts Ltd
 NOVATRACK ANALYSTS LTD.
 Safer Agro-Chem Ltd
 SAR Engineering
 SEAKEM OCEANOGRAPHY LTD.
 SEASTAR INSTRUMENTS LTD
 Stuart Plastics Ltd
 Sun-Rype Products Ltd

